IDAHO DEPARTMENT OF FISH AND GAME

Ed Schriever, Director

Statewide Report
Fall 2019 Season

ELK

July 1, 2019 to June 30, 2020

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2020
Boise, Idaho

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STATEWIDE REPORT

POPULATION, HARVEST & MANAGEMENT

STATEWIDE

Historical Background

Historically, elk numbers in Idaho were likely lower than they are today. Accounts from the Lewis and Clark expedition and trappers during the height of the fur trade generally suggest elk populations were scattered and only locally abundant in northern Idaho. Eastern Idaho elk populations appeared robust in the mid-1800s (Evans 1939). Statewide, populations were most likely reduced during the unregulated hunting of the late 1800s and early 1900s. Ungulates, including elk, were heavily utilized for food by miners, trappers, loggers, and other settlers.

Landscape-level changes across Idaho in the early-mid 20th Century had a mixed effect on elk. In northern Idaho, extensive wildfires and timber harvest created habitats more favorable to elk. In combination with predator suppression efforts, elk flourished. In southern Idaho however, extreme overgrazing combined with fire suppression efforts turned what was primarily perennial grass ranges into shrub fields. While this habitat shift favored mule deer, it likely resulted in fewer elk in southern Idaho.

The latter half of the 20th Century again saw a shift in elk populations across the state. Elk numbers in northern Idaho probably peaked in the 1960s at a time when elk habitat was at an optimum. Elk numbers fluctuated from then on, but were robust enough by the late 1980s to offer more liberal antlerless opportunities. The mid-1990s witnessed another downturn in northern Idaho elk numbers. Declining habitat quality, black bear and mountain lion predation, and hard winters all played a role. Wolf reintroduction and subsequent predation further accelerated elk declines.

In other portions of the state, including much of southern Idaho, elk numbers actually increased during this same timeframe. A change in grazing practices that promoted grass production, farming practices that favored resting farmland, and continued timber cuts that favored early seral habitat stages all enabled southern Idaho elk populations to grow to all-time record highs during the latter half of the 1900s.

Today, elk herds in the southern part of the state are mostly robust and limited more by sociological constraints, such as damage to agricultural crops and property, than by habitat suitability. Elk herds in the central and northern mountains continue to be limited by predators and declining habitat quality. Elk herds in the prairies and agricultural areas of northern Idaho are mostly robust and population levels are constrained by crop and property damage.

In total, Idaho's 2020 elk population in zones where surveys are regularly conducted is estimated at approximately 103,000 animals. (Zones excluded from the population estimate due to a lack of comprehensive survey data include the Panhandle, Owyhee, South Hills, Big Desert, Snake River, and Bannock.) Elk will always be a high priority species relative to their impact on hunting and other recreational opportunity, cultural heritage, and rural economies, and elk management is a priority program for the Idaho Department of Fish & Game (IDFG).

Management Objectives

The IDFG has developed statewide objectives based on elk hunter survey results, recent aerial surveys, current elk population status, and the potential for herd growth in some areas. The IDFG will continue to manage elk using the zone management system. The zone system allows herd management based on local habitat, weather, and herd movements, while providing a variety of hunting opportunities. The number of elk that can be supported in any given management zone is influenced by many factors, including weather, habitat quality, predation, hunter harvest, and the need to minimize elk-based crop and property damage (agricultural impacts). One or more of these "limiting" factors can often prevent an elk herd from growing further or limit the ability of wildlife managers to maintain current elk herd numbers.

Proposed 2014-2024 statewide elk management objectives include:

- Continue to offer general-season elk hunting opportunities by managing elk and predator populations, and improving elk habitat
- Enhance mature bull hunting opportunity
- Aid elk hunters in selecting hunting areas that align with their desired hunting experience
- Maintain the A-B elk tag structure, with adjustments to meet the needs and interests of today's hunters
- Implement measures to reduce elk-caused crop and property damage
- Improve public involvement in elk management decision-making
- Reduce the potential for disease to impact elk or livestock
- Increase public knowledge and understanding of elk biology, management, and hunting

Habitat Management and Monitoring

No single factor impacts wildlife over the long-term, including elk, more than habitat. As with all wildlife species, elk need adequate amounts of food, water, cover, and space throughout their life to survive. These fundamental requirements change throughout the year as elk use winter, summer, and transitional ranges. Positive or negative impacts to these seasonal habitats impact distribution and abundance of elk, ultimately affecting associated recreational opportunities. Inherently, elk zones sharing the same fundamental habitat type may potentially provide similar benefits to wildlife populations across a large area, while zones with fundamentally different habitat types may display differences in elk productivity. For example, while not proven to be a cause-and effect relationship, calf:cow ratios vary among ecological sections.

Natural phenomena that alter elk habitat, such as wildfire and drought, are common throughout the western states and impact a suite of wildlife across the landscape. Human-caused impacts to elk habitats can also influence the ability of a habitat to sustain elk populations throughout the year. In Idaho, six primary habitat issues affecting elk are invasive plants, wildland fires, timber and rangeland management, ecological succession, human development, and energy development.

Capture, Radio-mark, and/or Telemetry Monitoring

Quality survival data are critical for population monitoring. Elk survival, cause-specific mortality, seasonal movements, distribution, and range use patterns are determined primarily from radio-marked cows and calves.

A total of 169 elk calves were captured, radio collared, and monitored during this report period. Captures took place during December 2019 and January 2020. A total of 124 (73%) monitored radio-collared elk calves survived until June 1, 2020. Major causes of mortality were mountain lion predation at 42% of all calf mortalities (n=19), malnutrition (20%, n=9), and wolf predation (13%, n=6).

Biologists monitored 510 cow elk during this reporting period. No additional adult cow elk were captured for management purposes and all adult cow elk monitored were captured and radio-collared in previous years. A total of 495 (97%) survived until June 1, 2020. Major causes of mortality were mountain lion predation at 27% of all adult cow elk mortalities (n=4), and hunter harvest, also at 27% (n=4).

Populations Surveys and Monitoring

Monitoring provides wildlife managers with information to evaluate management goals and allows informed decision making. Monitoring includes estimates of population size, as well demographic information such as age and sex ratios. Aerial surveys are conducted frequently enough to establish population trends and timely enough to enable managers to influence these trends.

Population surveys were conducted in the Island Park and Palisades elk zones. Across the state, 16 of 22 zones with numerical population survey goals are meeting cow population objectives and 17 of 22 zones with numerical population survey goals are meeting bull population objectives (Figure 2).

In 9 elk zones across the state, cow elk populations are above objective and in some cases causing significant private land depredations. The IDFG has substantially increased antlerless hunting opportunity in these areas.

Five elk zones in north central Idaho are not meeting cow or bull population objectives. It is likely these elk populations are influenced by a complex combination of habitat condition/characteristics and predator systems. It is also likely that temporal changes in weather patterns and precipitation affect the relative role of habitat and predators.

Interspecific Issues

Historic ranges of elk and mule deer overlapped in large parts of western North America, and current elk distribution is overlapped almost entirely by mule deer and/or white-tailed deer in Idaho. Elk populations have increased in western North America over the last few decades, and many resource managers have questioned the influence of this species on their environment in general and mule deer specifically. Because mule deer populations have generally declined concurrent with elk population increases, resource managers have further questioned the

likelihood of a cause-and-effect relationship between these 2 trends, particularly as a result of competition.

In general, elk are able to take advantage of preferred deer foods, but rarely do deer extensively use common elk forages. Coupled with higher consumption rates for elk, elk foraging is more likely to influence deer than deer foraging is to influence elk (Lindzey et al. 1997). Additionally, deer and elk tend to separate by habitat features within areas of overlap, thereby reducing competition for forage and space.

Predation Issues

Gray wolves, mountain lions, black bears, grizzly bears, coyotes, bobcats, and occasionally golden eagles prey on elk. Wolves, mountain lions, and black bears occur across most of Idaho, and are the primary predators of elk. Coyotes, bobcats, grizzly bears, and potentially eagles prey on elk calves in the spring, but current research indicates these losses are minimal or restricted in distribution in Idaho (Zager et al. 2007b, White et al. 2010, Griffin et al. 2011). Managing predators to increase elk populations is a complex issue, in part because different segments of society value predators differently, and because previous efforts have met with mixed results. Nonetheless, predator management is desired by many hunters and serves as an important IDFG elk management tool.

Managers will implement different tools in addition to regulated harvest strategies to reduce predator populations determined to be negatively impacting elk populations. The IDFG Policy for Avian and Mammalian Predation Management provides discretion to the Director to implement predation management plans in those circumstances where wildlife management objectives for prey species cannot be accomplished through habitat manipulation and regulated predator harvest and where there is evidence that action affecting predators may aid in meeting management objectives. Predation management plans have been developed for the Lolo, Selway, Middle Fork, Panhandle, and Sawtooth zones where elk populations are below management objectives.

During FY2020, 17 wolves were removed to address wolf predation on elk in the Lolo Zone. The IDFG has conducted wolf control actions in the Lolo elk zone in 8 of the last 9 years to reduce predation on this elk herd and improve elk survival, which is well below elk management objectives. Such control actions are consistent with Idaho's 2002 Wolf Conservation and Management Plan approved by the U.S. Fish and Wildlife Service and the Idaho Legislature. Restoring the Lolo elk population will require continued harvest of black bears, mountain lions, and wolves along with wolf control actions when needed.

Winter Feeding and Depredation

Winter feeding of big game animals conducted by IDFG follows Commission rules and policy. In general, regional winter feeding advisory committees make recommendations to IDFG about the need to feed wintering deer or elk based on temperature, snow depth, and assessment of animal condition. If feeding is recommended, IDFG will feed animals a diet that is appropriate to the stage of winter, amount of native browse in the diet, and observed body condition of animals to be fed. In general, there are few long-term feeding sites in Idaho. The IDFG maintains a nearly-annual elk feeding operation in the Warm Springs Creek area, west of Ketchum. The

intent of this site is to prevent elk from attempting to overwinter within Ketchum, which historically was winter habitat. From the 1930s through early 2000s, IDFG maintained 4 additional long-term feed sites along the South Fork Boise River. These sites were initiated shortly after elk were translocated to the area in the 1930s, and elk were typically fed there 2 of every 3 winters. However, changing elk migration patterns in the area have eliminated the need for the South Fork Boise River sites.

Preventing crop and property damage (depredation) is a priority management objective for IDFG, and our response to depredation complaints is directed by Idaho Code 36-1108. Each region's Landowner-Sportsmen Coordinator has the responsibility to assist landowners in minimizing or eliminating depredations. Typical strategies to reduce depredations include hazing, permanent fencing, depredation hunts, kill permits, continued use agreements, targeted general or controlled hunts, and perpetual easements. However, depredation problems and their solutions are an increasingly complex matter involving not just the ecology and management of the species, but socio-economic problems and human population dynamics as well. Decades of effort to provide permanent solutions to depredation problems have proven successful and, in many areas, chronic problems have been successfully resolved.

Hunting and Harvest Characteristics

Hunter harvest of elk in Idaho has varied greatly over the last 100 years, and is largely reflective of varying elk populations. Prior to the 1945, total annual elk harvest in the state was less than 3,000 animals. By 1960 however, annual harvest generally exceeded 15,000 animals, with expanding elk populations in northern Idaho being the primary driver. Declining harvest over the next decade led to a low point in 1976 when annual elk harvest dropped below 5,000 animals, which resulted in more restrictive bull-only hunts going forward. Recovering elk populations in northern Idaho and expanding elk populations in southern Idaho led to a steady increase in elk harvest and by the mid-1990's, annual elk harvest exceeded 25,000 animals. The high-water mark for elk harvest in Idaho was 1994, when an estimated 28,000 elk were harvested. Harvest declined appreciably after that point and by 1997 was down to 18,500, again driven largely by elk population changes in northern Idaho. Annual harvest has fluctuated since then from a low of about 15,000 elk in 2011 to a high of about 22,700 in 2017.

Unlike deer, elk populations may be highly influenced by harvest. Although not the case everywhere, most annual mortality of adult elk is associated with human harvest. The goal of harvest management is to establish elk population objectives and establish harvest opportunities that are consistent with achieving or maintaining these population objectives.

During the 2019 hunting season, approximately 92,000 hunters pursued elk across the state of Idaho, resulting in an estimated 652,000 hunter days in the field. Hunters took an estimated 20,532 elk, of which 11,418 were antlered and 9,114 antlerless. Of the antlered animals taken 38% had at least 6 points on one side (Figure 3).

Disease Monitoring

Elk are subject to a number of diseases and pathogens. Systematic, large-scale disease monitoring in Idaho elk has focused primarily on diseases that could potentially affect elk at the population level, diseases that are new to Idaho and/or effects to Idaho elk are unknown, or

diseases that may be transmitted between elk and livestock. The Wildlife Health Program (WHP) conducted disease or species specific investigations during this reporting period. These investigations were disease surveillance efforts for chronic wasting disease (CWD), brucellosis, and Treponema-associated hoof disease (TAHD) in elk.

The IDFG recently revised its chronic wasting disease (CWD) surveillance strategy. Because CWD has a higher probability of being detected in deer, the primary focus of the new surveillance strategy is focused on these species. However, any mortality from collared elk or elk displaying symptoms (i.e. suspect animals) of CWD is submitted for testing. During the reporting period, 48 hunter harvest or CWD-suspect lymph node samples were collected and submitted for analysis to Colorado State University Veterinary Diagnostic Lab. CWD was not detected in any of the samples.

Brucellosis has largely been eliminated from domestic livestock in North America. A reservoir of brucellosis occurs in elk and bison in the Greater Yellowstone Area, which includes eastern Idaho. Because wild ungulates and cattle share range, disease transmission to domestic cattle is of great concern. Brucellosis was first documented in eastern Idaho elk in Idaho in 1998. In coordination with the US Department of Agriculture (USDA) and the Idaho Department of Agriculture (ISDA), the IDFG sent out 2,500 hunter brucellosis test kits to elk hunters in eastern Idaho. The 2019-2020 brucellosis sampling rotation included the Upper Snake Region within the domestic surveillance area (DSA) and depredation hunts in the Magic Valley, Southeast, Upper Snake and Salmon Regions. Two-hundred-and-ninety-six hunter harvest samples were submitted for testing. Results included 2 suspect and 2 reactors for brucellosis. Three of the 4 positive samples were from the DSA, but one of the suspect samples was harvested in the Salmon Region, which is a new area for brucellosis. Efforts are underway to work with both the USDA and ISDA to enhance surveillance during the next grant period.

Treponema-associated hoof disease (TAHD) was first detected in Idaho in 2018 in elk harvested in the Clearwater Region. TAHD is a novel disease in Idaho. Statewide surveillance efforts were initiated by the WHP) the regions, and Washington State University to conduct surveillance for elk with hoof abnormalities to assess TAHD distribution in Idaho. During the reporting period, 16 samples were collected. Of the 16 samples, 5 were positive, one was suspect and 6 were negative for the disease. Three samples are still pending and one sample was too degraded for a laboratory confirmation.

Other disease concerns are evaluated on a case by case basis. Animals showing signs of illness are collected and sent to IDFG's Wildlife Health Lab for testing. Additionally, IDFG monitors the health and disease status of elk from all capture events or capture mortalities. The WHP has a large comprehensive multi-year data set that will be analyzed and assessed over the next several years to assist the IDFG in looking at health and disease related trends, hot-spots, or areas of concern.

Management Discussion

Idaho's elk management plan (2014) establishes elk management goals and directs IDFG to maintain or increase current elk populations across most of the state. To accomplish these goals, IDFG has identified:

- Elk population objectives for each zone
- Specific factor(s) limiting elk numbers in each management zone
- Strategies and performance objectives to address limiting factors

Factors limiting elk numbers in Idaho include declining elk populations in Idaho's backcountry, well-documented impacts of wolves and other predators on elk, increased numbers of elk in agricultural settings, and continued degradation of elk habitat. Backcountry zones in particular have experienced precipitous declines in elk numbers over the last 25 years. In many cases, these zones are limited by both predation and habitat quality, and the ability to improve elk populations in these zones can be severely affected and limited by access, remoteness, and federal land-use restrictions. To recover these populations, a long-term commitment to habitat improvement is required, as is a clear link between Idaho's elk management plan and predation management plans.

Population monitoring, including aerial surveys, survival monitoring, mortality investigations, and annual hunter harvest estimates, will continue to be the foundation of IDFG's data collection and population management efforts for elk in Idaho. However, the ways in which we collect data are evolving as new technologies emerge. Camera-based surveys for elk and other species are being developed and may replace aerial surveys as the preferred method in the future. Additionally, the growing radio telemetry dataset from collared elk is being used in the development of an integrated population model (IPM). An IPM will allow managers to develop annual elk population estimates at the zone level, similar to the mule deer IPM IDFG uses now. The telemetry data is also being used to identify key highway crossing areas and migration corridors for elk.

Social science is progressing as well, with a series of hunter satisfaction surveys currently underway. Such surveys help managers assess public priorities and desires for hunt structure. Previous elk hunter surveys provided IDFG with the information to determine that Idaho elk hunters strongly value the opportunity to pursue elk every year, while also desiring the opportunity to apply for controlled hunts for mature bulls. IDFG's current hunt structure is a reflection of that. The new hunter surveys are aimed at determining deer and elk hunter satisfaction relative to hunter crowding, with the first of 4 consecutive surveys being conducted during this reporting period. Results from that survey will be analyzed and published in FY21.

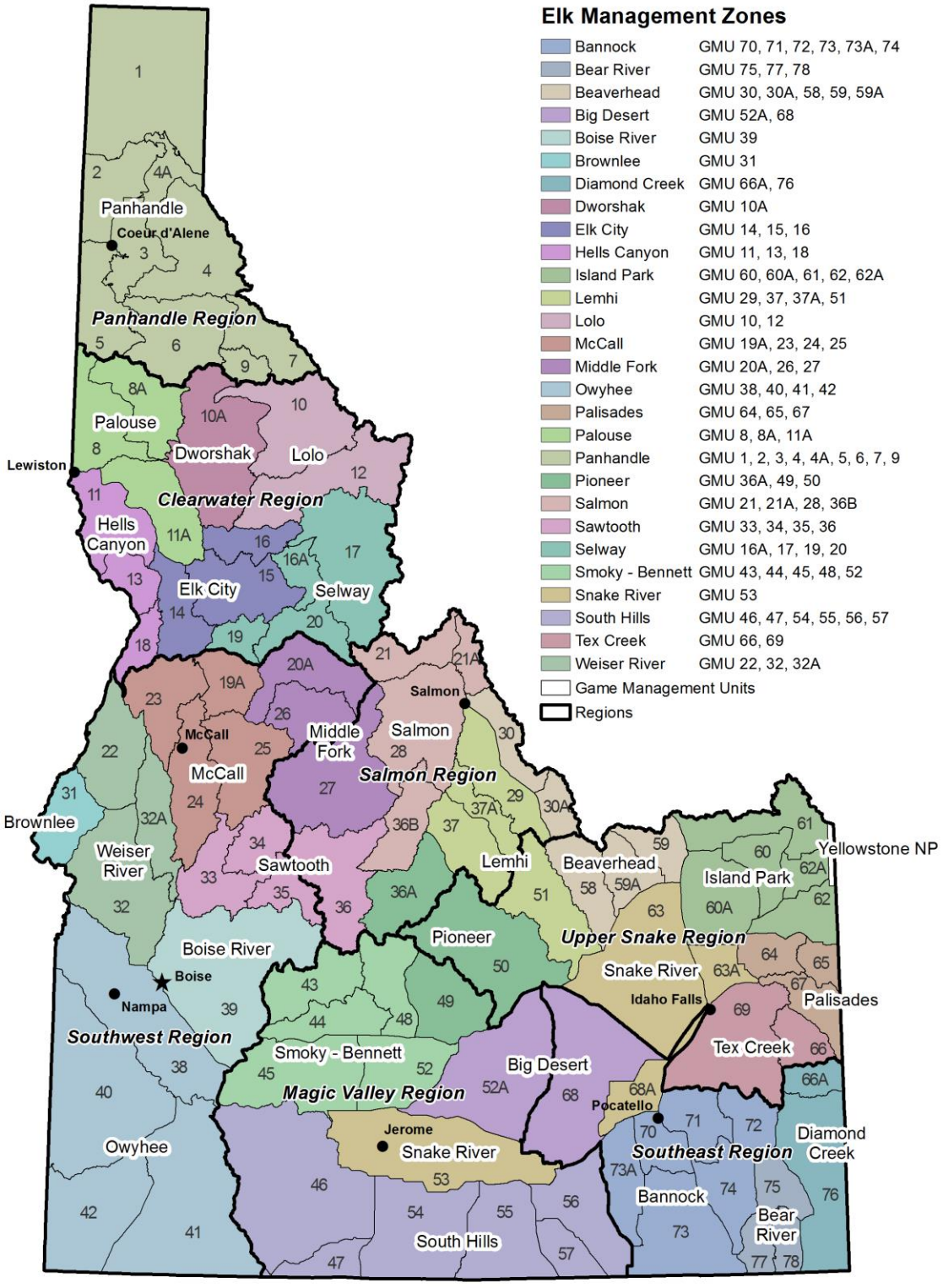
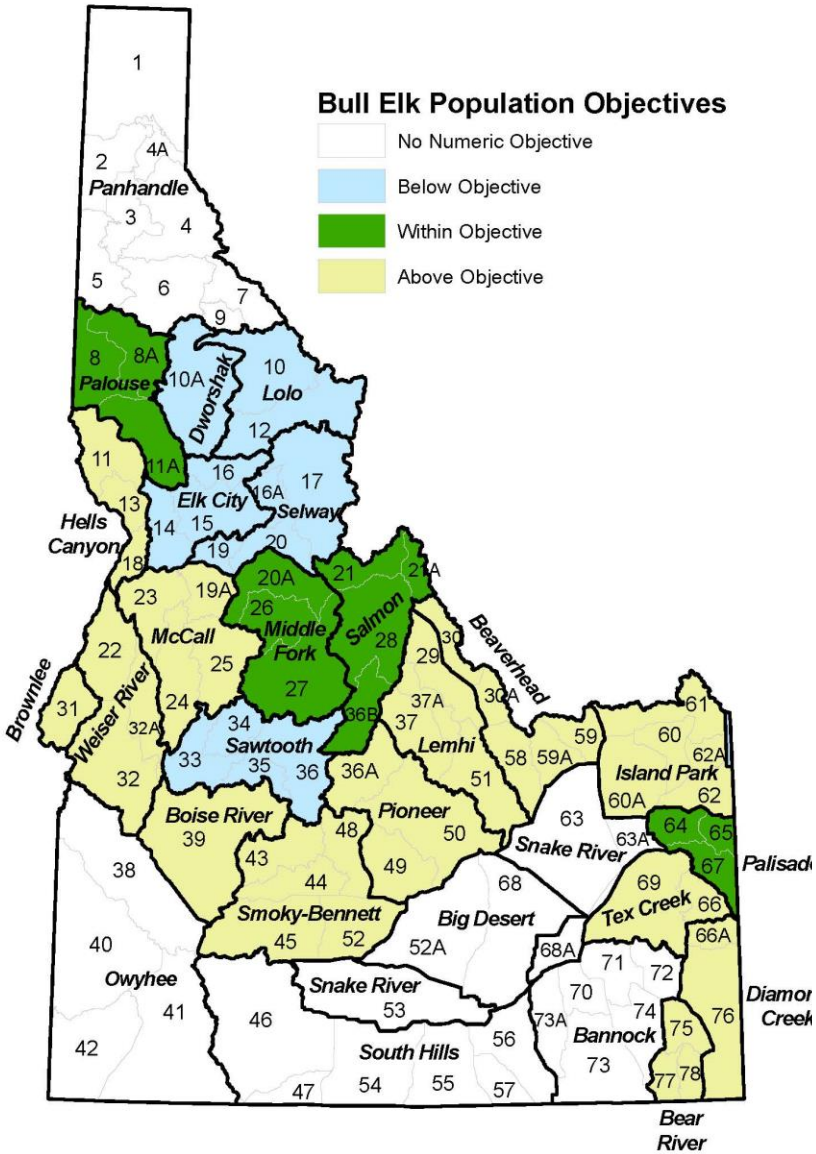


Figure 1. Statewide Elk Management Zones.



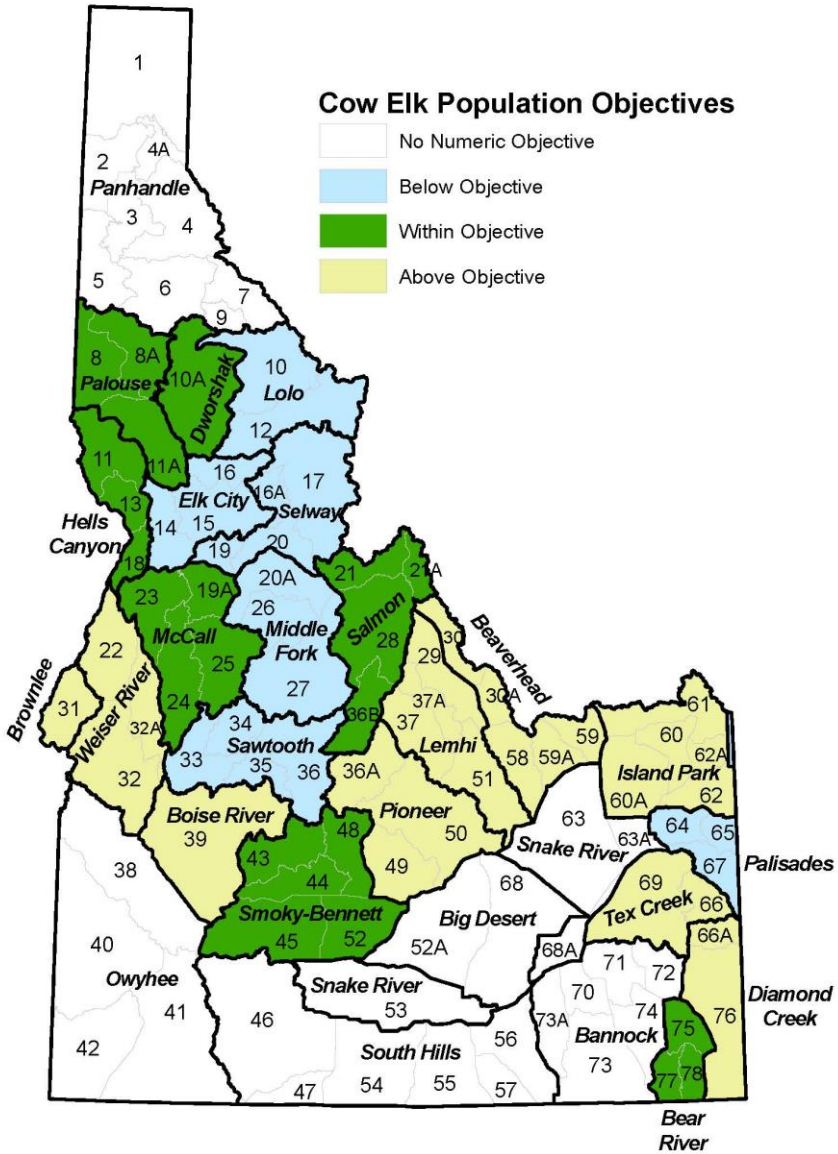


Figure 2. Elk Population Objectives

Elk Status & Objectives Statewide

3-Year Averages (2017-2019)

Hunters	91,795	Total Harvest	21,871
Hunter Days	644,439	Antlered	11,374
Success	24%	Antlerless	10,059
		% ≥6 Point	38%

Zone Characteristics

Square Miles	83,261
% Public Land	67%

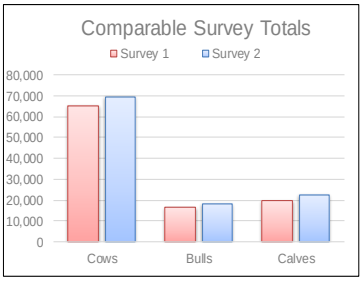
Winter Status & Objectives

Statewide	Current Status			Objective		
	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Total	69,496	18,354	11,663	55,975-80,600	12,817-19,662	7,418-11,719
Per 100 Cows		26	17		18-24	10 - 14

Note: Results are only from those Elk Zones where surveys are conducted.

Statewide	Survey 1				Survey 2			
Comparable Surveys Total	Cows	Bulls	Calves	Total	Cows	Bulls	Calves	Total
	65,035	16,508	19,864	97,101	69,496	18,354	22,288	102,922
Per 100 Cows		25	31			26	32	

Note: Results are only from those Elk Zones where surveys are conducted.

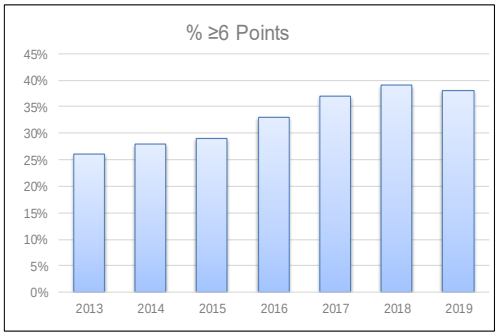


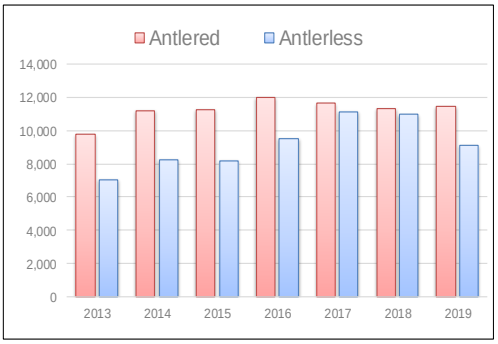
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	65%	74%	52%	66%	69%	73%
Cow Survival	-	91%	96%	95%	98%	96%	97%

Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	28,119	32,427	30,491	32,286	33,688	37,078	34,566
Hunter Days	227,199	264,874	245,487	261,176	282,773	315,469	302,305
Antlered	2,901	3,907	3,619	3,819	3,819	3,808	3,526
Antlerless	2,339	2,874	2,637	3,141	2,657	3,370	2,683
Harvest	5,240	6,781	6,256	6,960	6,476	7,178	6,209
Success Rate	19%	21%	21%	22%	19%	19%	18%
% ≥6	27%	30%	31%	35%	37%	40%	39%
"B" Tag	**2,013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	28,462	31,410	32,268	32,872	36,555	34,860	39,041
Hunter Days	170,518	191,262	184,715	193,048	215,999	214,696	238,418
Antlered	4,797	5,219	5,716	5,989	5,413	5,158	5,493
Antlerless	125	465	139	218	1,385	1,139	2,102
Harvest	4,922	5,684	5,855	6,207	6,798	6,297	7,595
Success Rate	17%	18%	18%	19%	19%	18%	19%
% ≥6	21%	22%	23%	23%	26%	28%	27%
CH Tag	**2,013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	16,887	17,126	18,334	20,164	20,991	20,834	17,772
Hunter Days	103,742	99,660	110,402	118,157	122,813	129,713	111,130
Antlered	2,053	2,080	1,943	2,182	2,420	2,362	2,400
Antlerless	4,552	4,929	5,393	6,160	7,055	6,492	4,332
Harvest	6,605	7,009	7,336	8,342	9,475	8,854	6,732
Success Rate	39%	41%	40%	41%	45%	42%	38%
% ≥6	55%	54%	59%	59%	63%	63%	61%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	73,468	80,963	81,093	85,322	91,234	92,772	91,379
Hunter Days	501,459	555,796	540,604	572,381	621,585	659,878	651,853
Antlered	9,751	11,206	11,278	11,990	11,652	11,328	11,419
Antlerless	7,016	8,268	8,169	9,519	11,097	11,001	9,117
Harvest	16,767	19,474	19,447	21,509	22,749	22,329	20,536
Success Rate	23%	24%	24%	25%	25%	24%	22%
% ≥6	26%	28%	29%	33%	37%	39%	38%





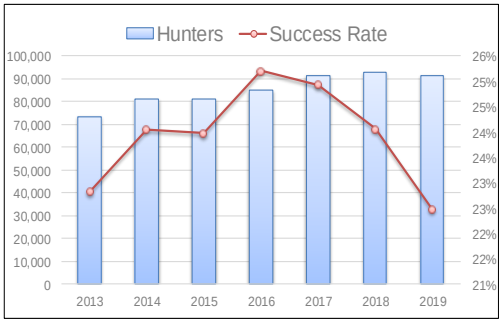


Figure 3. Statewide Elk Status and Objectives.

Panhandle Zone (GMUs 1, 2, 3, 4, 4A, 5, 6, 7, 9)

Historical Background

The Panhandle Zone is a large and diverse zone consisting of GMUs 1, 2, 3, 4, 4A, 5, 6, 7, and 9. Traditionally, the majority of elk habitat, elk numbers, and elk hunting activity occurred in GMUs 4, 4A, 6, 7, and 9. These GMUs are primarily composed of forested public lands and private timber companies and consistently recorded some of the highest hunter densities and elk harvest densities in the state. Expanding elk herds have recently increased hunter activities in GMUs 1, 2, 3, and 5, particularly in the agricultural areas of GMUs 1, 3 and 5.

The Panhandle Region has essentially been managed as a "zone" since 1977, when the rest of the state eliminated general season cow harvest. The Panhandle Zone maintained general either-sex hunting opportunities with fairly consistent hunting seasons across most of the GMUs (Appendix A) until 2012 when cow harvest was restricted to controlled hunts. From 1982-2003, a unique feature of the Panhandle Zone was a mandatory check of all elk harvested in the zone. Throughout this period, over 42,000 elk were reported via the Panhandle Mandatory Check program database. This database provided valuable information relevant to the elk population. Beginning with the 2004 season, harvest information for the Panhandle Zone was estimated by the statewide Mandatory Harvest Report system.

In response to low calf recruitment, low adult cow survival and concerns about hunter movements, the Panhandle staff proposed significant changes to 2012 elk seasons. Following a series of very contentious public meetings the Commission approved the most restrictive elk seasons in modern times, where general seasons (any weapon, archery and muzzleloader) in the Panhandle Zone would be "bulls only" and cow harvest was by controlled hunt tag in some GMUs. The 2017-2018 elk hunting seasons in the Panhandle Zone remained relatively restrictive by historical standards, however, a short general either-sex hunt opportunity was offered on the A and B tag (first time in 5 years). The either-sex hunting opportunity was restricted to on or within 1 mile of private land, areas where the elk populations were more robust. No either-sex opportunity was offered in GMUs 7 and 9 along with portions of GMU's 4 and 6.

Management Objectives

Objectives for the Panhandle Zone (Figure 3) are based upon population trends generated from calf:cow ratios measured via aerial surveys of the Panhandle Zone Bellwether Area (portions of GMUs 4, 6, and 7) and harvest statistics in GMUs outside the Bellwether Area. Calf:cow composition surveys to assess elk recruitment were not conducted during 2018 and 2019 due to poor weather conditions and pilot unavailability. The 2016 results indicated that calf numbers were the highest they've been in seven years in portions of the St Joe River drainage (GMUs 6 and 7) and are trending upwards. Recruitment levels in GMU 4 were higher than they've been in 4 years and are also trending upwards.

Habitat Management and Monitoring

Elk numbers were very low in the Panhandle Zone around the early 1900s. Major landscape changes occurred as a result of stand-replacing fires beginning in 1910. Vast areas of timber were transformed into brush fields and early succession timber stands that provided ideal conditions for elk. Additionally, elk were imported from Yellowstone National Park by

sportsmen in the 1940s and released in GMUs 1, 4, and 6. Elk populations increased, with periodic setbacks due to extreme winter conditions. While it is generally accepted that habitat conditions in traditional elk areas have declined in quality from better conditions in the 1950s and 1960s, pioneering of elk into new areas has allowed substantial growth. Due to an absence of large-scale stand-replacing fire, elk habitat potential will likely decrease in the long term.

Much of the Panhandle Zone's forested habitat experienced extensive timber harvest during the 1980s and 1990s. While this high level of timber harvest created additional elk forage, the more important impact was the construction of logging roads that allowed hunters easy access to elk and increased elk vulnerability. High road densities and threats to large areas of elk security continue to be a concern despite access management plans developed by land management agencies to address wildlife and watershed issues. Logging has since declined on federal lands but continues at a high rate on industrial timberlands. High road densities continue to put pressure on elk populations.

Biological Objectives

The most significant impact to elk populations in the Panhandle is severe winter weather conditions that result in abnormally deep snow or delayed spring green up. Adult and particularly calf elk survival have been compromised as a result of severe winter conditions that drain body condition, reduce the availability of food and increase their vulnerability to predation.

Capture, Radio-mark, and or Telemetry

An effort to access cow survival was initiated in GMU 6 in 2011. Twenty-one elk were captured and fitted with VHF collars in this GMU between the towns of Avery and Calder in the St Joe River drainage. An additional 18 cows were fitted with VHF collars in 2013 in GMU 6 and GMU 7 around the Avery area. Bi-monthly telemetry flights were conducted to estimate cow survival. The study was expanded into GMUs 3 and 4 in 2014; 45 elk were fitted with GPS collars. In the winters of 2015 (n = 38), 2017 (n = 41) and 2018 (n = 22) cows were fit were GPS collars in GMU's 4, 6, 7 and 9 (2015 only). In the winter of 2020, the monitoring effort expanded into GMU 1 collaring 11 cows. Elk are primarily monitored via satellite downloads. GPS collars allow for better determination of survival rates because the collars will provide daily locations and send alerts when mortality is detected. Additionally, the daily locations can be used to develop seasonal habitat models that can be used to provide guidance to land management agencies relative to elk management.

A greater variability in calf numbers and low calf ratios during composition flights in previous years prompted an additional collaring effort to monitor survival of 6-month old calves. From 2015–2020, 293 calves were fitted with GPS collars in GMU's 4, 6, and 7. Four male calves were collared in GMU 1 during winter 2020.

The probability of survival for cows from January to May (when most natural mortality occurs) during 2013–2018 was 94% (95% CI = 0.91–0.96). Survival probability for calves from January to May in 2015–2016 was 82% (95% CI = 0.72–0.89), 49% (95% CI = 0.35–0.62) in 2017, 40% survival rate in 2018, 60% survival rate in 2019, and 87% survival rate in 2020 (GMU 6 only). There is strong evidence to suggest that over-winter calf survival is different between managed-forested habitat (i.e., primarily private ownership; 92%, 95% CI = 0.81–0.96) and unmanaged-

forested habitat (i.e., primarily federal ownership; 60%, 95% CI = 0.46–0.72). In addition, there is support to suggest that sex and habitat both influence calf survival (managed-forested habitats: Female 95% (0.85–0.98) and Male 89% (0.76–0.96); unmanaged forested habitats: Female 72% (0.51–0.86) and Male 52% (0.35–0.68)).

Winter 2015, we began collecting cause-specific mortality information to identify sources of elk mortality on GPS collared animals. From January to May in 2015, 83% of calf mortality was mountain lion caused and 17% was wolf caused. From January to May in 2016, 57% of calf mortality was mountain lion caused, 14% wolf caused, 14% unknown mortality, 7% accident related mortality, and 7% disease related mortality. From January to May in 2017, 32% of calf mortality was mountain lion predation, 32% malnutrition, 16% unknown, 13% wolf, 3% disease, and 3% heavy parasite load. From January to May in 2018, 35% of calf mortality was mountain lion predation, 24% wolf, 21% unknown, 12% malnutrition, and 9% accident. From January to May in 2019, 55% of calf mortality was mountain lion predation, 18% malnutrition, 18% unknown, and 9% wolf. From January to May in 2020, 50% of calf mortality was mountain lion predation, 25% wolf predation, and 25% disease.

Population Surveys and Monitoring

A composition flight was conducted in GMU 1 during winter 2020. The results of this flight indicate a stable elk population with mid-30's calf:cow ratios. Similar to the last time the GMU was surveyed in 2012.

Inter-specific Issues

Both white-tailed and mule deer occur in all areas of the zone. White-tailed deer are the predominant deer species and maintain high densities in the lower elevations of GMUs 1, 2, 3, 5, and 6. Mule deer numbers appear to be stable to declining at much lower densities than whitetails and are found most frequently in the higher elevations of GMUs 1, 4, 6, 7, and 9. The moose population in the Panhandle Zone has expanded over past decades with the highest densities occurring in GMUs 1 and 2, although current moose abundance appears to be declining. Competitive interactions may exist among deer, moose, and elk; however, the form and extent of those relationships is presently unclear. A new research study in GMU 6 was initiated during the winter 2020 to better understand the relationships among prey species, predator species, and predator-prey interactions, as well as the role habitat and nutrition plays in these systems. Deer, elk, moose, mountain lion, black bear, and wolves were GPS collared. In future years the study will expand to include GMU 1.

Predation Issues

Mountain lion predation has been the largest source of mortality on collared 6-month old calves during 2015–2020. 2015 and 2016 winters were relatively mild and had high calf survival (82%), however, the 2017 and 2018 winters were above average snowpack (particularly in low elevations) and calf survival decreased to 40–50%. The decrease in calf survival was due primarily to malnutrition, not predation in 2017. However, the decrease in calf survival in 2018 was due to an increase in predation. The 2019 winter conditions began mild and became more severe in February when an abundance of snow fell. The mild onset of winter likely helped calves maintain body condition for longer which resulted in higher survival than the previous 2 winters. The 2020 winter conditions were relatively mild, resulting in the highest collared calf survival recorded to date in the

Panhandle. Research conducted in adjacent areas of Idaho and other states indicates that black bear predation may have significant impacts on neonatal elk calves.

Cow survival from 2014–2020 has averaged 89% on an annual basis (ranging between 79%-95%).

Winter Feeding and Depredation

There were no organized efforts to feed elk during the winter of 2019–2020.

Hunting and Harvest Characteristics

The overall elk harvest in the Panhandle Zone estimated from hunter reports and corrected for non-response, was 3,859 elk in 2019. The estimated antlered elk harvest of 1,879 bulls consisted of 19% six-point or better bulls. This is indicative of a well-defined mature age class with adequate adult bulls for breeding purposes but it may not meet hunter desires. It's likely due to years of low calf recruitment during 2009 –2012, that there are fewer older bulls. During the 2019 season, 1,980 antlerless elk were harvested. The overall hunter success rate for the Zone was estimated at 21% with 27% of the harvest by Panhandle Zone hunters opting for the A tag.

Disease Monitoring

As part of a disease monitoring effort, the state updated and improved our CWD Response and Monitoring Plan in 2018. CWD samples are collected at big game check stations, road-killed carcasses, and from suspect elk. To date, no positive samples have been detected in Idaho.

In addition, blood and fecal samples are collected from each elk captured and collared for survival monitoring. These samples are tested for disease surveillance. Other disease concerns will be evaluated on a case by case basis. Any animals that are showing signs of illness will be collected and sent to the health lab for testing.

Management Discussion

Aerial surveys, both population estimates and herd composition surveys, have been a valuable part of regional elk management historically. The homogenous, heavy-cover habitat that typifies the Panhandle Zone necessitated caution when interpreting elk sightability survey results which is why in recent years we now only conduct herd composition surveys and we base our population objectives off of trend rather than numerical objectives while still combining additional information sources (i.e., harvest statistics, weather information, and survival rates of collared cows and calves). In 2014, we identified new population objectives based upon trend data in Idaho's Elk Management Plan 2014–2024. In fall 2018, we deployed 150 remote cameras in GMU 6 on low and high probability use winter range to get a GMU-wide estimate of abundance. Initial analyses and results proved promising. Late spring and summer 2020, we deployed another 250 remote cameras to estimate elk abundance and neonate calf survival in GMU 6.

Elk

Panhandle Zone (GMUs 1, 2, 3, 4, 4A, 5, 6, 7, 9)

3-Year Averages (2017-2019)

Hunters	17,992	Antlered	1,879
Hunter Days	1,879	Antlerless	1,980
Success	21%	% ≥6 Point	19%
Harvest	3,859		

Zone Characteristics

Square Miles	7,779
% Public Land	58%
Land Type	Forest

10-yr Population Objectives (Idaho's Elk Management Plan 2014-2024)

GMU	Population Trend		2023 Growth Objective
	Current Status	Objectives	
1	Little change to increasing	Stable to increase	Up to 25% more elk
2, 5	Increasing	Stablize to decrease depending on human population grouwh/agricultural and depredation issues	Within 10% of existing levels
3, 4, 4A	Little Change-GMU 3, Stable to decreasing GMUs 4, 4A	Stabilize	Up to 20% more elk
6, 7, 9	Stable	Increase	Up to 10% more elk

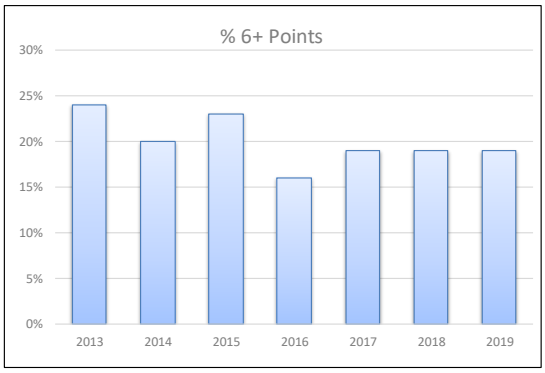
Notes: The Panhandle Elk Trend Area includes parts of GMUs 4, 6, and 7.

Composition surveys-Calf:100 Cow Rations

GMU	2013	2014	2015	2016	2017	2018	2019
1							
3	33						
4	26	25	21	32			
5	27						
6	22	19	34	35			
7	12	13	30	33			
9	20						

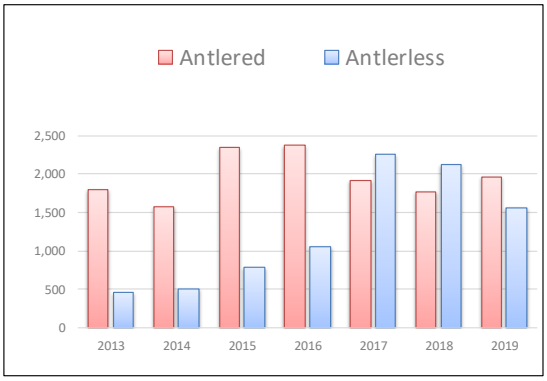
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	44%	78%	47%	40%	63%	85%
Cow Survival	-	96%	96%	98%	100%	96%	97%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	3,798	3,175	3,693	4,169	4,593	4,822	4,736
Hunter Days	36,634	30,474	34,160	39,576	44,713	49,491	49,084
Antlered	534	482	648	736	718	543	612
Antlerless	0	1	0	0	116	187	94
Harvest	534	483	648	736	834	730	706
Success Rate	14%	15%	18%	18%	18%	15%	15%
% ≥6	32%	26%	29%	24%	27%	26%	25%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	8,090	7,670	10,108	10,044	12,220	11,323	11,458
Hunter Days	50,709	49,225	59,188	62,500	77,590	74,174	73,615
Antlered	1,155	990	1,586	1,530	1,192	1,223	1,348
Antlerless	3	4	0	1	999	906	747
Harvest	1,158	994	1,586	1,531	2,191	2,129	2,095
Success Rate	14%	13%	16%	15%	18%	19%	18%
% ≥6	21%	17%	22%	13%	15%	16%	16%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,164	1,280	1,711	1,956	1,728	1,711	1,384
Hunter Days	8,490	10,441	12,345	14,503	15,736	18,618	15,171
Antlered	106	100	110	106	1	1	0
Antlerless	456	504	792	1,048	1,142	1,036	712
Harvest	562	604	902	1,154	1,143	1,037	712
Success Rate	48%	47%	53%	59%	66%	61%	51%
% ≥6	16%	13%	15%	4%			
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	13,052	12,125	15,512	16,169	18,541	17,856	17,578
Hunter Days	95,833	90,140	105,693	116,579	138,039	142,283	137,870
Antlered	1,795	1,572	2,344	2,372	1,911	1,767	1,960
Antlerless	459	509	792	1,049	2,257	2,129	1,553
Harvest	2,254	2,081	3,136	3,421	4,168	3,896	3,513
Success Rate	17%	17%	20%	21%	22%	22%	20%
% ≥6	24%	20%	23%	16%	19%	19%	19%



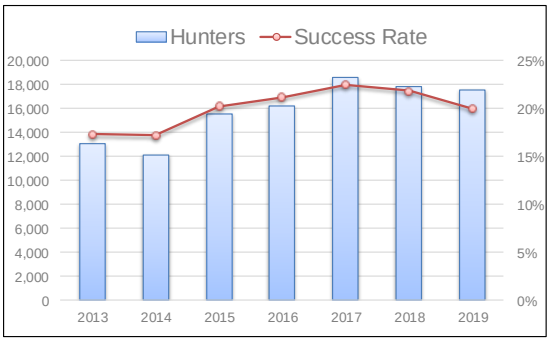


Figure 3. Panhandle Zone Elk Status and Objectives.

Palouse Zone (GMUs 8, 8A, 11A)

Historical Discussion

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined, however, through the latter part of that decade and the 1960s and 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Management Objectives

Objectives for Palouse Zone (Figure 4) are to establish a population of 1,125–1,725 cows and 115–415 bulls. The objectives, related to total population level (total elk numbers), were selected to represent a reasonable balance between depredation concerns and the desire to provide a reasonably large elk population. The objective for the number of adult elk represents the maximum number of elk that could be sustained under the circumstances.

The zone presently meets the bull abundance objective with 219 bulls and is just shy of the cow objective with 1,101 cows. The 2016 survey did have some issues due to winter conditions not persisting through survey completion. Elk consequently began moving after abnormally early green-up in mid-February, which resulted in elk moving out of survey GMUs near the end of the survey. This was particularly true in GMU 11A where too few elk were counted to be included in the survey estimates.

Habitat Management and Monitoring

This zone contains portions of the highly productive Palouse and Camas prairies. Dry-land agriculture began in this zone in the 1880s and continued until the 1930s. Large areas of native grassland existed to supply forage for the large numbers of horses and mules required to farm the area. With the development of the tractor and subsequent improvements, farming efforts intensified as equipment became more capable of handling the steep, rolling hills. Currently, virtually all non-forested land is tilled, and only small, isolated patches of perennial vegetation remain, but are regularly burned or treated with herbicides. Elk numbers have only recently increased to levels that have provided significant hunting opportunities. Farmland in GMUs 8 and 8A provides high-quality elk forage, and as populations have grown, so have the number of crop depredation complaints. Farmers recall few elk problems until the last decade or so. Elk currently cause damage to grain, legumes, rapeseed, canola, hay, and valuable specialty crops throughout this zone. Most of the crop damage occurs during summer months. Damage to conifer seedlings caused by elk is a concern where reforestation projects occur on elk winter range. To help address depredation concerns, a green-field hunt was added to the A-tag hunt in 2004. This hunt is an antlerless hunt that runs from 1 August through 15 September within one mile of cultivated fields in the Palouse Zone. Additionally, in 2008, an extra antlerless elk hunt

was added (100 X-tags) that was open from 1 January through 31 January to reduce elk numbers in refuge areas; tag numbers were reduced to 55 in 2013 to shift harvest emphasis towards site-specific depredation hunts. In 2010 we added 3 days of cow hunting to existing bull seasons on the B-tag that is open on private lands (excluding corporate timberlands) to put further pressure on elk associated with crop depredations. The 2016 sightability survey indicated that the objective to reduce elk numbers on the Palouse had been met, therefore, the January extra antlerless elk hunt was eliminated and tag numbers were reduced for controlled hunts 8-1 (-50 tags) and 8-2 (-50 tags) in 2017. Current seasons are designed to maintain elk near current levels.

Timber harvest in the corporate timber, private timber, state land, and federal land areas of GMU 8A increased dramatically through the 1980s, 1990s, and early 2000's mostly to salvage dead white pine and respond to increased demand for timber products. This activity created vast acreages of early succession habitat, expanding elk habitat potential. Road construction associated with timber harvest is extensive in some areas. Road closures in some areas have significant potential to benefit elk through improved habitat effectiveness and reduced harvest vulnerability.

Biological Objectives

Elk populations in this zone have increased over the last 30 years due to increased availability of agricultural crops, natural forage, and brush fields (both on summer and winter range). To address increasing depredation problems during the last 10 years, liberal antlerless elk harvest opportunities have been offered and populations have been reduced to desired levels.

Elk productivity in this zone has been high, with calf:cow ratios historically in the mid-40s or higher. This results in a resilient elk population and allows for a liberal season length and harvest. Due to depredation issues we have been trying to reduce elk populations. Population reduction has been successful, and thus reductions in harvest have been implemented to maintain current population levels.

Capture, Radio-mark, and or Telemetry

Capture and radio-marking have not been conducted recently.

Population Surveys and Monitoring

Aerial surveys are conducted on a rotation schedule (every 5 years) and the Palouse zone is current. However, due to lack of winter conditions in most recent years, aerial surveys are behind schedule.

Inter-specific Issues

The zone supports a substantial population of white-tailed deer, while mule deer are uncommon. The zone's moose population has expanded substantially over the past 2 to 3 decades. Competitive interactions may exist among white-tailed deer, elk, and moose. However, the form and extent of those relationships is presently unclear.

Grazing by cattle occurs on almost all of the available pasture ground and poses some competitive concerns for elk, especially during drought years.

Predation Issues

Increasing mountain lion harvest over the last few years likely reflects increased mountain lion numbers in this zone. Black bear numbers have probably remained static. Few wolves persist in this zone.

Winter Feeding and Depredation

Emergency winter feeding has not been conducted recently.

Hunting and Harvest Characteristics

Total harvest in the Palouse Zone in 2019 was estimated at 710 elk based on the mandatory harvest report. This represents a 6% decrease in harvest from 2018 (756) and is similar to the previous three-year average of 725. Total hunter numbers were estimated at 3,440 for 2019 compared to 3,395 hunters for 2018. An average of 23% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 21% hunter success rate.

Disease Monitoring

Disease monitoring has not been conducted recently.

Management Discussion

Sightability estimates are needed periodically to monitor progress toward achieving population objectives. In addition, the information is valuable to assess population growth with respect to depredations and antlerless harvest levels. Evaluations of methods to decrease depredation problems in the zone are an ongoing priority/need and IDFG priority.

Elk Zone

Palouse (GMUs 8, 8A, 11A)

3-Year Averages (2017-2019)

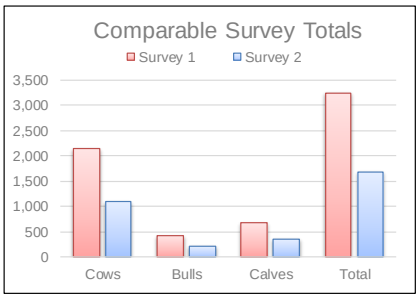
Hunters	3,506	Antlered	409
Hunter Days	25,290	Antlerless	316
Success	21%	% ≥6 Point	23%
Harvest	725		

Zone Characteristics

Square Miles	2,323
% Public Land	14%
Land Type	Agriculture

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2016	1,101	219	97	1,125-1,725	115-415	15-125
Bulls per 100 Cows			20	9		18-24	10-14

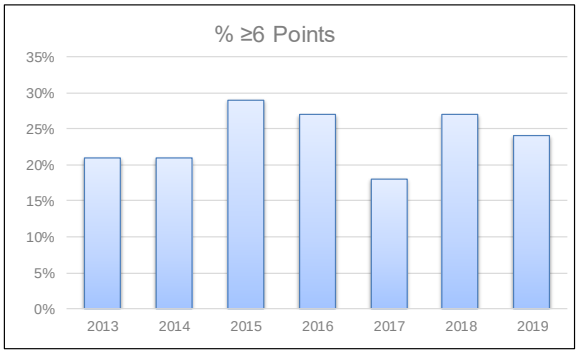


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
8	2009	504	125	153	782	2016	256	82	119	457
8A	2009	1,537	241	489	2,267	2016	845	137	234	1,216
11A	2009	112	45	34	191	ND				
Comparable Surveys Total		2,153	411	676	3,240		1,101	219	353	1,673
Per 100 Cows			19	31				20	32	

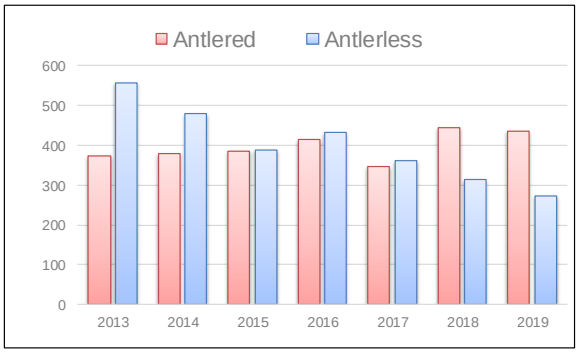
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	-	-	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,121	1,093	981	1,021	979	1,059	1,115
Hunter Days	9,304	9,480	7,656	8,612	7,787	9,537	10,841
Antlered	68	86	92	86	75	91	69
Antlerless	236	174	143	211	118	157	147
Harvest	304	260	235	297	193	248	216
Success Rate	27%	24%	24%	29%	20%	23%	19%
% ≥6	21%	22%	42%	24%	13%	10%	17%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,953	2,086	1,973	2,060	2,145	1,966	1,958
Hunter Days	11,939	12,331	11,828	12,105	13,092	12,104	11,725
Antlered	305	293	292	329	272	352	367
Antlerless	86	72	54	78	92	55	1
Harvest	391	365	346	407	364	407	368
Success Rate	20%	17%	18%	20%	17%	21%	19%
% ≥6	21%	21%	25%	23%	20%	31%	25%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	592	539	497	485	432	370	367
Hunter Days	4,449	4,695	4,604	4,303	3,834	3,650	3,299
Antlered	0	0	0	0	0	0	0
Antlerless	235	234	190	142	151	101	126
Harvest	235	234	190	142	151	101	126
Success Rate	40%	43%	38%	29%	35%	27%	34%
% ≥6							
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	3,666	3,718	3,451	3,566	3,556	3,395	3,440
Hunter Days	25,692	26,506	24,088	25,020	24,713	25,291	25,865
Antlered	373	379	384	415	347	443	436
Antlerless	557	480	387	431	361	313	274
Harvest	930	859	771	846	708	756	710
Success Rate	25%	23%	22%	24%	20%	22%	21%
% ≥6	21%	21%	29%	27%	18%	27%	24%



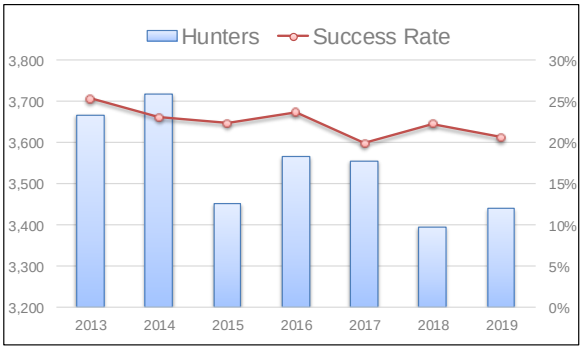


Figure 4. Palouse Zone Elk Status and Objectives.

Lolo Zone (GMUs 10, 12)

Historical Background

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Management Objectives

Long-term objectives for the Lolo Zone (Figure 5) are to maintain a population of 6,100–9,100 cows and 1,300–1,900 bulls, including 725–1,200 adult bulls. Current population levels are well below objectives with 1,137 cows, 425 bulls, and 286 adult bulls estimated in 2017.

Management of the Lolo Zone elk population and setting appropriate population objectives presents a serious quandary. Existing information suggests that both predation and density dependence (habitat limitations) have been causing low calf production and recruitment.

Habitat Management and Monitoring

Land ownership within this zone is almost entirely publicly-owned forest (USFS). The southern portion of the zone is within the Selway-Bitterroot Wilderness Area. Historically, habitat productivity was high in this zone. However, habitat productivity has decreased following decades of intensive fire suppression. Approximately one-third of the zone has good access for motorized vehicles with medium road densities. The remaining portion has low road densities with good trails contributing to medium-to-low big game vulnerability. Aside from damages to reforestation projects, there are no elk depredation concerns in this zone.

Until the 1930s, wildfires were the primary habitat disturbance mechanism in this zone. Between 1900 and 1934 approximately 70% of the Lochsa River drainage was burned by wildfires. Between 1926 and 1990 over 1,900 km of roads were built in this area to access marketable timber. State Highway 12 along the Lochsa River was completed in 1962 and became the primary travel corridor. In 1964 most of the southern portion of GMU 12 was designated as part of the Selway-Bitterroot Wilderness.

The Clearwater Basin Collaborative (CBC), which is a citizen partnership among state, federal, and private collaborators, has driven research since 2013 evaluating the role of nutritional limitations in elk population declines in the Region. The North Fork Clearwater Study Area in GMU 10, and the Lochsa Study Area in GMU 12, is 2 of 6 study areas selected across the Clearwater Basin in an effort to better understand elk fitness, nutritional status, and habitat use relative to summer forage quantity and quality. Overall, herds in the Basin have relatively low

levels of autumn body fat, body size, and pregnancy rates, however, levels were similar to other herds inhabiting dry forest areas of the inland Northwest (Cook et al. 2017). Preliminary results suggest that elk in GMUs 10 and 12 are in relatively better body condition than other herds in the Basin. However, body size and pregnancy rates were lower than expected in GMU 10 based on autumn body fat levels (Cook et al. 2017). This research is ongoing and additional analyses/data collection is needed to understand what might be limiting elk in the zone.

Biological Objectives

Poor calf recruitment since the late 1980s, winter losses in 1996–1997, and recent population declines in GMUs 10 and 12 have contributed to dramatically decreasing elk herds within this zone. Predation by wolves has been a factor in declines since their reintroduction to Idaho (1995–1996) and reestablishment in the Lolo Zone (early 2000's). Elk numbers in the zone are well below objective for cows, bulls, and adult bulls.

Winter 1996–1997 was marked by severe conditions, including extremely deep snow exceeding 200% of average snow-pack in some areas. These conditions apparently caused higher-than-normal winter mortality, leading to a dramatic decline in the GMU 10 population (-48%). In addition, a survey was conducted in GMU 12 during winter 1996–1997 and those results suggested a 30% decline at that time. This data, in combination with overwhelming anecdotal information, suggests that catastrophic winter losses occurred in GMUs 10 and 12.

Calf productivity and/or recruitment have declined substantially since the late 1980s. Prior to that, winter calf:cow ratios often exceeded 30:100 and occasionally exceeded 40:100. From 1989-1999, ratios dwindled continuously down to levels below 10:100. This level of recruitment is inadequate to sustain natural mortality in the absence of hunting. Between 2002 and 2004, population surveys and composition surveys revealed recruitment levels between 27 and 30 calves:100 cows in GMU 12, and 19–26 calves:100 cows in GMU 10. However, the 2005 age composition surveys showed declines from recent levels. Most notable was the decline in GMU 12 where there were 13.9 calves per 100 cows. The 2010 aerial survey for the Lolo Zone showed a 57% decline from the 2006 survey, from 5,098 elk to 2,178. Calf:cow ratios in 2010 for GMUs 10 and 12 were estimated at 17.4 and 6.9 calves:100 cows respectively. Extreme declines in cow numbers resulted in a high bull:cow ratio of 44 bulls:100 cows in 2010. In 2017, the elk population declined to an estimated 1,893 elk; however, calf:cow ratios for GMUs 10 and 12 increased to 32 and 19 calves:100 cows respectively. The adult bull population declined from 352 in 2010, to 71 in 2017; however, yearling and raghorn bulls increased from 243 in 2010 to 354 in 2017 resulting in 37 bulls:100 cows. Cow numbers declined slightly from 1,358 to 1,137.

Preliminary results from research efforts suggest both nutrition and predation may be potential causes of low calf recruitment levels. Since 2011, calf survival rates have been increasing, and recently peaked at 88% (n = 19) in 2014. This increase may be due to several factors including mild winter conditions and reductions in wolf numbers. Additional work conducted in an experimental framework has also shown wolves to be a major factor in some years (winters with deep snow–and likely prior to wolf removal efforts).

To address low recruitment levels, declining bull numbers, and 1996–1997 winter losses, the IDFG capped B-tag numbers at 1,600 and closed cow elk controlled hunts beginning with the

1998 hunting season. This B-tag cap level represented a 60–65% reduction in any-bull rifle hunting opportunity. In 2010 the B-tag quota was further reduced to 1,088 and A-tag quota of 404 imposed. However, with declining elk numbers, hunter participation rates are declining and tags are not selling out. Low recruitment and low adult cow survival remain a concern in this zone. Without long-term changes in demographic rates, objectives in the zone will not be achievable in the foreseeable future.

Capture, Radio-mark, and or Telemetry

Capture and radio marking of elk has not been conducted during this reporting period.

Population Surveys and Monitoring

Aerial population surveys were conducted in 2017 and each zone is on a 5 year rotation schedule. Due to lack of winter conditions in most recent years, aerial surveys are behind schedule, however, the Lolo zone is up to date.

Inter-specific Issues

Both GMUs support small white-tailed deer populations, few mule deer, and moderate-density moose populations. Moose populations increased moderately over the past 20 years, but more recently growth may have stalled. Grazing by cattle occurs to a limited extent in the northwestern corner of GMU 12 on a U.S. Forest Service (USFS) allotment.

Predation Issues

Research investigating cause-specific mortality in GMU 10 reported that the primary proximate cause of neonate mortality was from black bears and mountain lions, and subsequent reductions in bear densities improved neonate survival (White et al. 2010). In most of the Clearwater Region, mountain lion harvest levels have exhibited a slight increasing trend over the last decade; however, anecdotal data suggests that lion populations have remained stable in the Lolo Zone since the mid-2000s, shortly after declining from peak levels in the late 1990s. Black bear harvest remained somewhat stable through 1998, averaging between 100 and 150 bears per year, until 1998, when greatly liberalized seasons led to dramatic increases in harvest that has ranged from 215 to 335 bears harvested per year ever since. However, black bear population performance remains well above plan objectives. Wolf packs have been well-established throughout the zone.

Research in the zone indicates that wolves have had impacts on elk demographics and wolf predation has been the leading cause of mortality of adult cows and calves ≥ 6 months during some years, particularly heavy snow years. The IDFG has conducted numerous annual wolf removal efforts beginning in 2010, in addition to aggressive wolf harvest seasons intended to reduce impacts of predation on this elk population. Improved survival in recent years could be due to a combination of mild snow conditions and wolf removal efforts.

To gain a better understanding of cause-specific calf survival and management implications across the State, IDFG began collaring calves in multiple statewide GMUs in 2015. Within the Clearwater Region, GMUs 10A and 15 were included in this statewide monitoring effort. From 2015–2017, there were 22 calf mortalities in GMU 10A (69 total collared, 68% overall survival)

with main causes of mortality including malnutrition (27%; n=6), unknown predation (27%, n=6), and mountain lion predation (23%; n=5). From 2018–2020, there were 41 calf mortalities in GMU 10A (82 total collared, 49% overall survival) with main cause of mortality produced by predation including wolf (32%; n=13%) and mountain lion predation (24%; n=10). Unknown, malnutrition, accident, and unknown predation made up 27%, 7%, 5%, and 5% mortality, respectively. Only 5 calf mortalities occurred in GMU 15 from 2015–2018 (58 total collared, 91% overall survival), including 3 from unknown predation, 1 from wolf predation, and 1 from an automobile accident. Statewide calf survival in 2015, 2016, 2017, 2018, 2019, and 2020 was 82%, 76%, 52%, 68%, 69%, and 73%, respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors. During 2018, statewide calf mortalities were 34% lion predation, 18% unknown predation, 13% wolf predation, 7% malnutrition, and 23% related to other factors including uncertain (n = 15), capture mortality (n = 3), and coyote predation (n = 1). In 2019, lion predation accounted for 40% of statewide calf mortality, while wolf predation and malnutrition comprised 19% and 13%, respectively. Unknown, unknown predation, uncertain, and accidents each made up less than 10% of calf mortality statewide. Lion predation again made up the leading cause of calf mortality during 2020 at 42%, followed by malnutrition (20%), unknown (18%), wolf predation (13%), accident (4%), and disease (2%).

Winter Feeding and Depredation

Emergency winter feeding has not been conducted recently.

Hunting and Harvest Characteristics

Total harvest in the Lolo Zone in 2019 was estimated at 133 elk based on the mandatory harvest report. This represents a 9% decrease in harvest from 2018 (146) and is slightly below the previous three-year average of 144. Total hunter numbers were estimated at 800 for 2019 compared to 869 hunters for 2018. An average of 38% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with an 18% hunter success rate.

Disease Monitoring

Disease monitoring has not been conducted recently.

Management Discussion

The level of the Lolo Zone B-tag cap, and any future changes in the cap, are dependent upon cow survival and recruitment levels. In addition to data collected as part of ongoing elk survival and nutrition research, complete sightability surveys will be conducted frequently to evaluate population performance.

Elk Zone

Lolo (GMU 10, 12)

3-Year Averages (2017-2019)

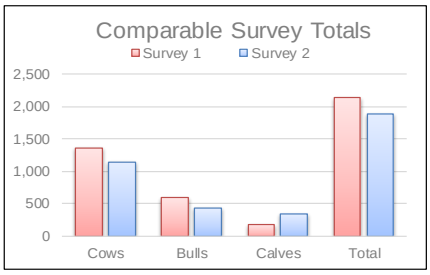
Hunters	816	Antlered	143
Hunter Days	6,302	Antlerless	0
Success	18%	% ≥6 Point	38%
Harvest	144		

Zone Characteristics

Square Miles	2,373
% Public Land	97%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2017	1,137	425	286	6,100-9,100	1,300-1,900	725-1,200
Bulls per 100 Cows			37	25		18-24	10-14

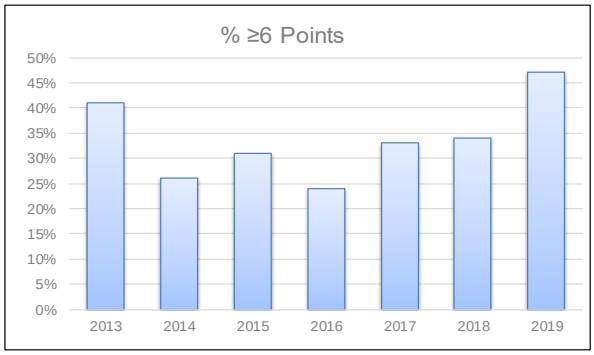


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
10	2010	824	461	144	1,429	2017	866	266	280	1,412
12	2010	534	133	38	705	2017	271	159	51	481
Comparable Surveys Total		1,358	594	182	2,134		1,137	425	331	1,893
Per 100 Cows			44	13				37	29	

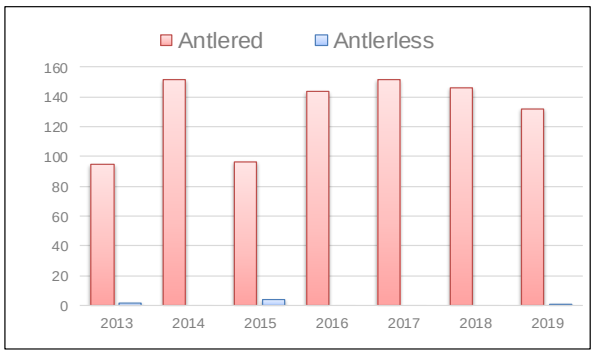
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	92%	97%	100%	100%	100%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	145	232	124	157	217	293	254
Hunter Days	1,295	2,504	1,209	1,391	1,912	2,675	2,463
Antlered	27	32	27	45	40	58	44
Antlerless	0	0	4	0	0	0	0
Harvest	27	32	31	45	40	58	44
Success Rate	19%	14%	25%	29%	18%	20%	17%
% ≥6	56%	50%	48%	36%	42%	37%	40%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	421	818	488	559	562	576	545
Hunter Days	3,125	5,966	3,572	3,964	3,670	4,125	4,052
Antlered	68	120	69	99	112	88	88
Antlerless	0	0	0	0	0	0	0
Harvest	68	120	69	99	112	88	88
Success Rate	16%	15%	14%	18%	20%	15%	16%
% ≥6	35%	26%	25%	18%	30%	33%	50%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	3	0	0	0	0	0	1
Hunter Days	5						9
Antlered	0						0
Antlerless	2						1
Harvest	2	0	0	0	0	0	1
Success Rate	67%						100%
% ≥6							
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	569	1,050	612	716	779	869	800
Hunter Days	4,425	8,470	4,781	5,355	5,582	6,800	6,524
Antlered	95	152	96	144	152	146	132
Antlerless	2	0	4	0	0	0	1
Harvest	97	152	100	144	152	146	133
Success Rate	17%	14%	16%	20%	20%	17%	17%
% ≥6	41%	26%	31%	24%	33%	34%	47%



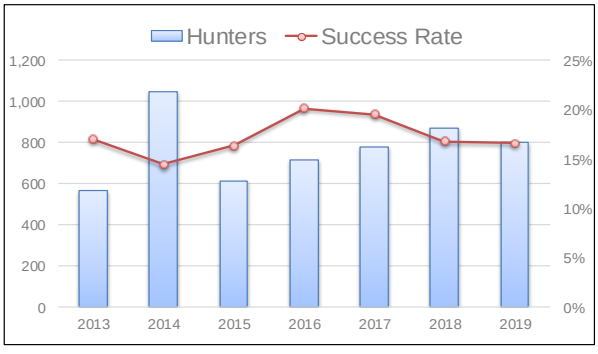


Figure 5. Lolo Zone Elk Status and Objectives.

Dworshak Zone (GMU 10A)

Historical Background

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges due to flooding with the filling of Dworshak Reservoir. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Management Objectives

Objectives for the Dworshak Zone (Figure 6) are to establish a population of 2,900–4,300 cows and 600–900 bulls, including 350–500 adult bulls. Based on 2011 sightability survey results, the cow objective is being met (4,280 cows estimated), while the bull (315 estimated) and adult bull (105 estimated) objectives are not. Elk populations in the Dworshak Zone remain stable, despite the relatively recent addition of wolves to the predator suite in this zone and relatively high elk harvest. This elk population remains productive and offers considerable opportunity for elk hunters.

Management direction for the zone is to maintain the elk population within objectives, while recognizing that high bull elk vulnerability in the zone impedes progress towards bull objectives and a general acceptance by hunters of relatively high hunter densities and moderate bull quality.

Habitat Management and Monitoring

Dworshak Zone consists of GMU 10A, which is approximately 75% timberland and 25% open or agricultural lands and is bisected by canyons leading to the Clearwater River. The first wave of timber harvest in this zone occurred during the early 1900s and consisted mostly of removing the most valuable timber species and largest trees. During the 1970s, timber harvest increased fairly dramatically, and new roads provided access to previously inaccessible areas. In 1971, Dworshak Reservoir flooded approximately 45 miles of the North Fork Clearwater River corridor with slack water and permanently removed many thousands of acres of prime, low-elevation winter range for big game. During the early 1970s, only a few hundred elk were observed wintering along the river under the predominantly old-growth cedar hemlock forest. The timberland is owned predominantly by Potlatch Corporation, Idaho Department of Lands (IDL), and USFS. Access is very good throughout the zone and timber harvest occurs on most available timber ground. High open and closed road densities contribute to high elk vulnerability and low habitat effectiveness. During the 1980s, 1990s, and through present times, timber harvest has occurred on almost all available state and private land as demand for timber and management of these lands intensified. Despite the reservoir flooding parts of the historical winter range, extensive logging along the river corridor improved the existing winter range in

this GMU. South-aspect forests were cleared to provide timber products and inadvertently provided quality winter range.

The Clearwater Basin Collaborative (CBC), which is a citizen partnership among state, federal, and private collaborators, has driven research since 2013 evaluating the role of nutritional limitations in elk population declines in the Region. The Dworshak Study Area in GMU 10A is 1 of 6 study areas selected across the Clearwater Basin in an effort to better understand elk fitness, nutritional status, and habitat use relative to summer forage quantity and quality. Overall, herds in the Basin have relatively low levels of autumn body fat, body size, and pregnancy rates, however, levels were similar to other herds inhabiting dry forest areas of the inland Northwest (Cook et al. 2017). Preliminary results suggest that elk in the Dworshak Zone have relatively high body fat levels compared to other study areas, surpassed only by elk in the Lolo Zone (Cook et al. 2017). Forage models also predicted higher forage quality in these zones than other zones in the Clearwater Region.

Depredations have increased on agricultural land within the past 10 years in this zone due to increases in both deer and elk populations and changes in land ownership that reduced access for hunting opportunities. Elk cause damage to grain, legumes, and hay crops within the south-central portion of this zone during summer months. Occasional damage to stored hay, silage, and winter wheat occurs during winters with heavy snow accumulation. Damage to conifer seedlings by elk is a concern in the remaining portions of this zone where reforestation projects overlap with elk winter range. Controlled antlerless elk seasons have been successful in reducing the overall level of damage in this zone.

Biological Objectives

Historically, GMU 10A has supported a productive elk population. From 1992–1996, recruitment averaged 34 calves:100 cows. From 1997–1999, recruitment dropped to an average of 19 calves:100 cows. However, the 2001 and 2007 sightability surveys revealed increases in recruitment at 30 calves:100 cows and 26 calves:100 cows, respectively. The most recent survey in 2011 showed an increase in cow numbers from 2007 (3,235–4,280) and no change in calf numbers, resulting in a decrease in recruitment at 20 calves:100 cows in 2011, down from 26 calves:100 cows in 2007. Bull numbers remain below objective and showed further decline in 2011. Concerns over low recruitment and low bull numbers might precipitate future hunting season changes.

Capture, Radio-mark and or Telemetry

Beginning in winter of 2014 Dworshak zone was prioritized as part of a statewide effort to better understand survival and cause-specific mortality. Each winter approximately 30 calves are collared and monitored. This data is helping to support the development of an integrated population model to better understand and analyze populations in this zone and others. This effort will continue into the 2020 winter.

Population Surveys and Monitoring

Aerial surveys are conducted on a rotation schedule (every 5 years) and the Dworshak zone is due to be flown as soon as winter conditions allow. Due to lack of winter conditions in most

recent years, aerial surveys are behind schedule. Radio collared cows and calves are monitored for cause-specific mortality and survival.

Inter-specific Issues

GMU 10A supports a substantial white-tailed deer population, few mule deer, and a moderate moose population. The white-tailed deer population has increased dramatically over the past 20 years. Significant competitive interactions between white-tailed deer and elk may exist. However, the form and extent of those relationships is presently unclear.

Significant livestock grazing on rangeland in the southeastern portion of the zone impacts elk habitat potential. Most of that grazing occurs on habitats used exclusively during winter months. Additionally, range allotments are present on summer and winter habitat on USFS, IDL, and Potlatch Corporation lands elsewhere in the zone.

Predation Issues

Predator numbers, mountain lions in particular, increased to high levels 2 decades ago. Lion harvest in the zone increased dramatically from a range of 4 to 20 harvested annually in the late 1980s to a peak of 87 lions harvested in 1997. Elk harvest subsequently declined over this same timeframe. Anecdotal observations suggest this trend in harvest was related to a similar trend in mountain lion populations. Since 1997 lion harvest declined to a low of 16 lions harvested in 2007; however, harvest has trended upwards since then with a 2017–2019 average of 37 lions harvested per year in 10A. Black bear harvest has increased slowly and recently stabilized with harvest levels meeting 2000 –2010 bear management plan objectives of heavy harvest based on % females and % males ≥ 5 years old. Anecdotal increasing trends in mountain lion and bear populations might be adversely affecting elk population performance, but there is currently inadequate information to objectively assess those potential impacts. Wolves have been established within Dworshak Zone since the early 2000's. Currently, at least 6 packs inhabit the Dworshak Zone for the majority of the year and 6 additional packs inhabit the zone periodically (i.e., these packs spend time in other management zones).

The Dworshak Zone was prioritized as part of a statewide effort to better understand survival and cause-specific mortality. Cause-specific mortality has been evaluated from 2015 to 2020. Calf survival from 1 January to 31 May over this six year period includes 83% (2015), 88% (2016), 43% (2017), 43% (2018), 33% (2019), and 73% (2020). Cumulative cause of death over this time period included lion predation (20 calves), wolf predation (19 calves), unknown predation (5 calves), malnutrition (9 calves), unknown (8 calves), and accident (2 calves). Yearling survival was 100% in 2016 and 2017 and 86% in 2018 from 1 January to 31 May (no yearlings were collared in 2015). In 2019 and 2020, yearling survival was 100% during this time period. From 1 June to 31 December, yearling survival was 75% in 2016, 83% in 2017, 89% in 2018, 67% in 2019, and currently 100% in 2020. Cause of death was attributed to hunter harvest (7 yearlings), unknown predation (2 yearlings), unknown (2 yearling), and mountain lion predation (2 yearling). Survival in 2016 of adult cows (5 collared) and bulls (1 collared) was 80% and 100% respectively, with 1 cow dying of unknown cause. Survival of 2018 adult cows (14 collared) and bulls (2 collared) was 86%% and 50% respectively. In 2018, 1 bull and 1 cow were harvested with another cow mortality attributed to mountain lion predation. Adult elk survival was 100% for 2019 and currently 100% for 2020. Statewide calf survival in 2015, 2016, 2017,

2018, 2019, and 2020 was 82%, 76%, 52%, 68%, 69%, and 73%, respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors. During 2018, statewide calf mortalities were 34% lion predation, 18% unknown predation, 13% wolf predation, 7% malnutrition, and 23% related to other factors including uncertain (n = 15), capture mortality (n = 3), and coyote predation (n = 1). In 2019, lion predation accounted for 40% of statewide calf mortality, while wolf predation and malnutrition comprised 19% and 13%, respectively. Unknown, unknown predation, and accidents each made up less than 10% of calf mortality statewide. Lion predation again made up the leading cause of calf mortality during 2020 at 42%, followed by malnutrition (20%), unknown (18%), wolf predation (13%), accident (4%), and disease (2%).

Winter Feeding and Depredation

Emergency winter feeding has not been conducted recently.

Hunting and Harvest Characteristics

Total harvest in the Dworshak Zone in 2019 was estimated at 577 elk based on the mandatory harvest report. This represents a 22% decrease in harvest from 2018 (741) and is below the three-year average of 615. Total hunter numbers were estimated at 3,195 for 2019 compared to 3,297 hunters for 2018. An average of 14% of the bulls harvested in this GMU over the past 3 years (2017–2019) has been 6-point or larger with a 19% hunter success rate.

Disease Monitoring

Captured and collared elk are tested for the following: Bluetongue (BT), Bovine Respiratory Syncytial Virus (BRSV), Bovine Viral Diarrhea Virus (BVD), Infectious Bovine Rhinotracheitis virus (IBR), Epizootic Hemorrhagic Disease virus (EHD). No other disease testing has been conducted recently.

Management Discussion

Sightability surveys will be needed periodically to evaluate population performance relative to plan objectives. Composition surveys may be conducted to evaluate potential changes in recruitment. Calf survival monitoring will continue to be a priority in this zone for at least another year.

Elk Zone

Dworshak (GMU 10A)

3-Year Averages (2017-2019)

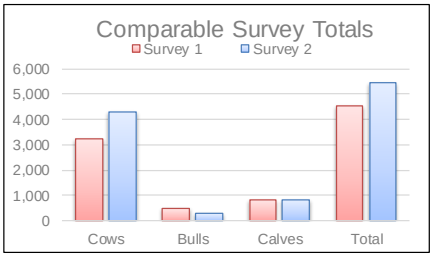
Hunters	3,214	Antlered	403
Hunter Days	27,220	Antlerless	212
Success	19%	% ≥6 Point	14%
Harvest	615		

Zone Characteristics

Square Miles	1,555
% Public Land	49%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2011	4,280	315	105	2,900-4,300	600-900	350-500
Bulls per 100 Cows			7	2		18-24	10-14

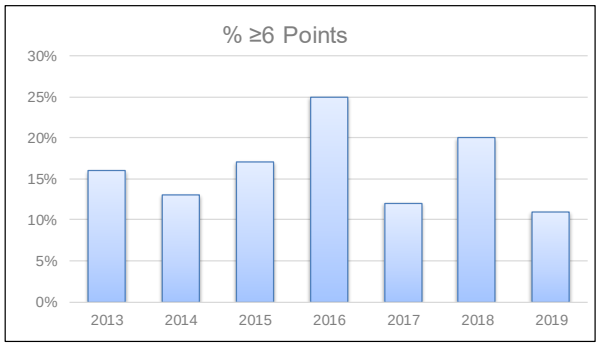


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
10A	2007	3,236	477	848	4,561	2011	4,280	315	850	5,445
Comparable Surveys Total		3,236	477	848	4,561		4,280	315	850	5,445
Per 100 Cows			15	26				7	20	

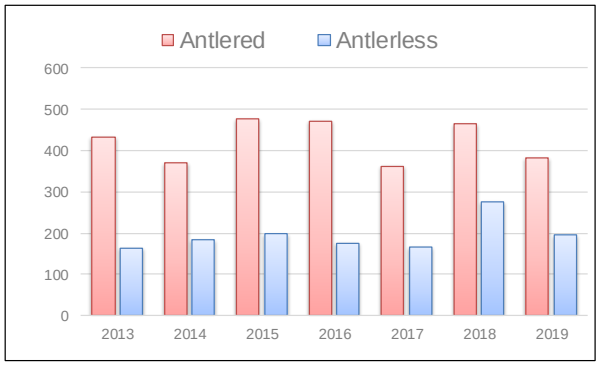
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	69%	83%	46%	41%	33%	73%
Cow Survival	-	100%	100%	100%	100%	88%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,121	876	865	1,095	1,041	1,159	1,133
Hunter Days	8,165	7,866	7,887	8,900	10,739	10,386	9,350
Antlered	97	82	94	137	100	139	74
Antlerless	117	159	158	138	126	221	150
Harvest	214	241	252	275	226	360	224
Success Rate	19%	28%	29%	25%	22%	31%	20%
% ≥6	32%	22%	28%	33%	16%	37%	26%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,953	1,967	1,902	1,879	2,039	2,062	2,012
Hunter Days	15,219	16,393	14,148	14,437	16,581	16,633	16,914
Antlered	333	289	384	334	260	327	308
Antlerless	4	1	9	6	0	0	5
Harvest	337	290	393	340	260	327	313
Success Rate	17%	15%	21%	18%	13%	16%	16%
% ≥6	11%	11%	15%	22%	11%	13%	7%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	69	43	59	66	69	76	50
Hunter Days	299	245	333	359	443	425	189
Antlered	1	0	0	0	0	0	0
Antlerless	42	25	31	31	41	54	40
Harvest	43	25	31	31	41	54	40
Success Rate	62%	58%	53%	47%	59%	71%	80%
% ≥6							
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	3,143	2,886	2,826	3,040	3,149	3,297	3,195
Hunter Days	23,683	24,504	22,368	23,696	27,763	27,444	26,453
Antlered	431	371	478	471	360	466	382
Antlerless	163	185	198	175	167	275	195
Harvest	594	556	676	646	527	741	577
Success Rate	19%	19%	24%	21%	17%	22%	18%
% ≥6	16%	13%	17%	25%	12%	20%	11%



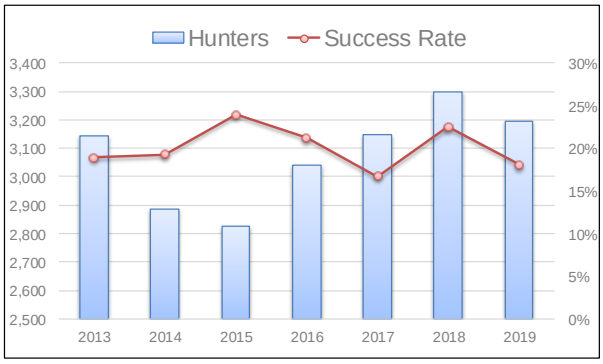


Figure 6. Dworshak Zone Elk Status and Objectives.

Hells Canyon Zone (GMUs 11, 13, 18)

Historical Background

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk production in areas adjacent to this GMU increased around the turn of the century, and elk repopulated this zone by the 1960s. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Management Objectives

Objectives for the Hells Canyon Zone (Figure 7) are to establish a population of 2,000–2,900 cows and 420–610 bulls, including 240–348 adult bulls. Currently all population objectives are being met or exceeded for the Hells Canyon Zone with an estimated 2,556 cows, 799 bulls, and 600 adult bulls. Tag levels were increased in 2009 in all GMUs to slow or cap growth. Antlerless seasons were restructured in GMUs 11, 13, and 18 in 2013 to increase cow harvest in response to low calf recruitment rates but have since been removed. Bull tags were reduced in 2013 in GMU 11 in response to a decrease in adult bulls estimated during the 2013 survey, and were again reduced in 2019.

Habitat Management and Monitoring

Habitat productivity varies widely throughout the zone from steep, dry, river-canyon grasslands having low annual precipitation to higher elevation forests with good habitat productivity and greater precipitation. Late succession forest cover types have become fragmented within the zone. Many grassland cover types have been invaded by various weeds and non-native grasses, including cheatgrass and yellow star thistle. Road density is moderate, and access is restricted in many areas. This results in medium to low vulnerability of big game to hunters; however, increased permit numbers has likely increased vulnerability of cow elk.

Historically, sheep and cattle ranchers and miners homesteaded the canyon lands in this zone, while prairie land was settled by farmers. Around the turn of the century, northern GMU 11 was under intensive use for dry-land agriculture and fruit orchards. Many resort cabins were built near and around the town of Waha. Later, many cabins were built along the mail stage route from Lewiston to Cottonwood via Soldiers Meadows and Forest. A mill was built in Winchester, along with numerous smaller mills on Craig Mountain, and the forested portion of Craig Mountain was extensively logged. The forests were frequently high-graded, and the existing forests still show the scars. In addition, past improper grazing practices severely degraded many meadow areas and allowed invasion of noxious weed species on dryer sites. The elk population increased dramatically in the zone since 1991 (200+% increase) and recent surveys have estimated declining recruitment, suggesting density dependent constraints on further population growth.

This zone contains large tracts of both private and publicly-owned land. GMU 11 is mostly private land except for Craig Mountain Wildlife Management Area (CMWMA) along the Snake and Salmon rivers. The CMWMA consists of 2 major management units: the Billy Creek area (16,123 acres), which was obtained between 1971 and 1983; and the Peter T. Johnson Mitigation Area (59,991 acres), which was acquired in 1995 as partial mitigation for Dworshak Reservoir. GMU 13 has been mostly under private ownership since settlement and is managed mostly for agriculture and livestock grazing and has very limited public access opportunity. Historically, sheepherders ran their flocks in the canyons of GMU 18, and some logging occurred in the forested areas of this GMU. GMU 18 is two-thirds public land with the remaining in private ownership located at lower elevations along Salmon River. The majority of Hells Canyon Wilderness Area, which was designated as such in 1975, is in GMU 18.

Depredations have increased during the past 10 years in this zone due to increases in white-tailed deer and elk populations. Elk cause damage to grain, legumes, hay, and rangeland forage. Cultivated crops are the primary concern in the north (GMU 11), while livestock forage is the primary concern in the remaining portion of this zone (GMUs 13 and 18). Controlled antlerless elk seasons have had limited success in reducing the overall damage despite dramatic increases in permit levels.

Biological Objectives

Elk hunting in this zone is offered only on a controlled-hunt basis. Across the zone, sightability survey data indicate that cow and bull elk are down, with continued declining calf recruitment. Bull:cow ratios during the 2013 and 2019 surveys were 29 and 30, respectively. Calf:cow ratios remained low, from 21 calves:100 cows in 2013 to 22 calves:100 cows in 2019. Even more alarming was the decline in calves in GMU 11, with only 17 calves:100 cows estimated in 2013, and no further improvement with only 20 calves:100 cows estimated in 2019.

Since 1991, elk populations have grown rapidly in the Hells Canyon Zone. Cow populations have increased from 865 in 1991 to 3,633 in 2013. Bull elk populations have also shown tremendous growth, increasing from 299 bulls in 1991 to 1,059 bulls in 2013. However, during the 2013 survey, there were 184 fewer calves estimated (despite the increase in cow numbers) and calf recruitment decreased to 21 calves:100 cows. In order to address a potential density-dependence issue, an additional 150 cow tags were added (total 525) to the 2013 hunt and bull tags were reduced from 151 to 80. In addition, a collaborative research project commenced in November of 2013 to investigate elk nutrition and pregnancy rates. Preliminary results from the CMWMA in GMU 11 showed that 10 of 20 cows captured (18 collars deployed including 1 yearling) were lactating while average body fat was 5.3% (range of 2.7−7.4%) suggesting cows were in poor body condition coming onto winter range and potentially a nutritional deficiency on summer range. Average body mass for these same animals (based on girth) was 214 kg (range of 208−226 kg). Estimates derived from CMWMA are equivalent to the lowest levels observed in elk sampled during a similar study throughout the Pacific Northwest (Cook et al. 2013). Despite low body fat levels, elk at CMWMA had high pregnancy rates, which could be due to abundant autumn green-up supporting higher pregnancy rates (Cook et al. 2017). The 2019 sightability survey indicated further declines in cow:calf ratios despite an effort to reduce populations.

Continuation of this research and subsequent population surveys will help direct management to maintain a productive elk herd in the Hells Canyon Zone.

Capture, Radio-mark, and or Telemetry

Capture and radio marking of elk has not been conducted during this reporting period.

Population Surveys and Monitoring

An aerial survey was flown during February 2019. A total population estimate of 3,892 elk were observed which included; 2,556 cows, 799 bulls and 577 calves. This resulted in a bull:cow:calf ratio of 31:100:23.

Inter-specific Issues

Grazing by cattle is gradually decreasing in the public land portions of this zone due to reductions in USFS and Bureau of Land Management (BLM) allotments, along with land ownership shifting from private to public. Mule deer populations based on recent sightability surveys are reasonably high compared to survey results from the mid to late 1980s, however, the extent of any competitive interactions with elk are unknown.

Predation Issues

Predation is not believed to be a driving factor of elk populations within the Hells Canyon Zone. Mountain lion harvest had previously been declining since 2008 when 28 lions were harvested, although recently harvest has been increasing, peaking at 44 lions in 2018. Across the Clearwater Region, GMUs 11, 13, and 18 provide the lowest quality bear habitat and likely has the lowest bear densities due to its hot and arid climate. Yet, black bear harvest has continued to increase slightly or remain stable in GMUs 11, 13, and 18 when compared to the previous 3-year average. There has been only 1 documented wolf pack in the southern end of GMU 18 since the early 2000's, and presence is likely seasonal.

Winter Feeding and Depredation

Emergency winter feeding has not been conducted recently.

Hunting and Harvest Characteristics

Total harvest in the Hells Canyon Zone in 2019 was estimated at 330 elk based on the mandatory harvest report. This represents a 43% decrease in harvest from 2018 (576) and is below the previous three-year average of 509. Total hunter numbers were estimated at 913 for 2019 compared to 1,801 hunters for 2018. An average of 57% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 34% hunter success rate.

Disease Monitoring

Disease monitoring has not been conducted recently.

Management Discussion

Sightability surveys will be required periodically across the zone to evaluate population performance relative to plan objectives. Continued monitoring through the Clearwater Basin Collaborative elk nutrition study will help to direct management of the zone in addition to sightability survey population estimates.

Elk Zone

Hells Canyon (GMU 11, 13, 18)

3-Year Averages (2017-2019)

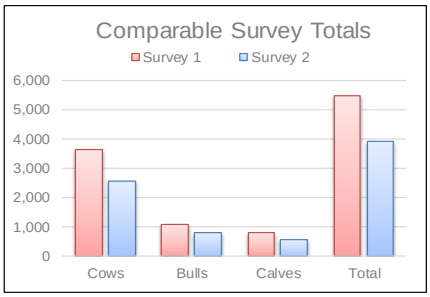
Hunters	1,526	Antlered	262
Hunter Days	9,693	Antlerless	248
Success	34%	% ≥6 Point	57%
Harvest	509		

Zone Characteristics

Square Miles	1,389
% Public Land	34%
Land Type	Forest Rangeland

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2019	2,556	779	600	2,000-2,900	420-610	240-348
Bulls per 100 Cows			30	23		25-29	14-18

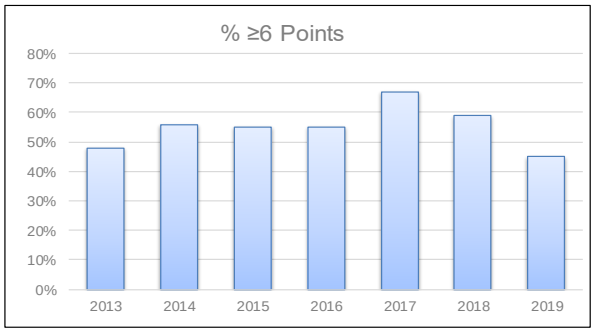


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
11	2013	1,012	222	176	1,410	2019	309	94	62	465
13	2013	823	265	225	1,313	2019	1,190	404	243	1,837
18	2013	1,798	572	380	2,750	2019	1,057	281	252	1,590
Comparable Surveys Total		3,633	1,059	781	5,473		2,556	779	557	3,892
Per 100 Cows			29	21				30	22	

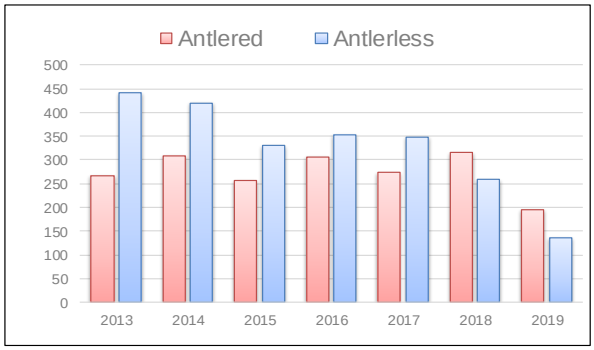
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	84%	100%	100%	100%	-	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,926	2,044	1,830	1,866	1,863	1,801	913
Hunter Days	11,689	12,187	11,381	11,409	10,990	12,457	5,633
Antlered	266	309	258	305	274	317	194
Antlerless	441	420	332	352	348	259	136
Harvest	707	729	590	657	622	576	330
Success Rate	37%	36%	32%	35%	33%	32%	36%
% ≥6	48%	56%	55%	55%	67%	59%	45%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,926	2,044	1,830	1,866	1,863	1,801	913
Hunter Days	11,689	12,187	11,381	11,409	10,990	12,457	5,633
Antlered	266	309	258	305	274	317	194
Antlerless	441	420	332	352	348	259	136
Harvest	707	729	590	657	622	576	330
Success Rate	37%	36%	32%	35%	33%	32%	36%
% ≥6	48%	56%	55%	55%	67%	59%	45%



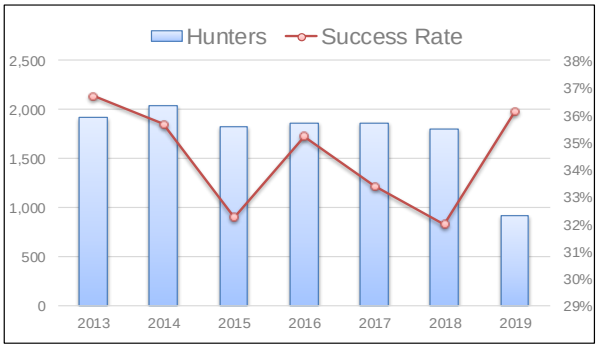


Figure 7. Hells Canyon Zone Elk Status and Objectives.

Elk City Zone (GMUs 14, 15, 16)

Historical Background

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Management Objectives

Objectives for the Elk City Zone (Figure 8) are to maintain a population of 3,150–4,650 cows and 675–1,000 bulls, including 350–575 adult bulls. In the most recent aerial survey (2015) this zone was below objectives for cows (2,900 estimated), total bulls (283 estimated), and adult bulls (151 estimated). This survey should not have been conducted due to lack of snow; consequently, elk were not on winter range and these survey results are not representative of actual elk numbers. The 2008 survey, which did have good survey conditions, estimated 4,264 cows, 863 bulls, and 218 adult bulls. Current perceptions are that elk have declined in GMUs 15 and 16 but are up in GMU 14. The current cow harvest management strategy allowed that segment of the population to achieve its objective in 2008. B-tag sales were capped beginning with the 2002 hunting season to allow the bull segment of the population to reach objectives in 2008. Additionally, the A-tag was capped in 2019 and use of second non-resident tags was eliminated to address population concerns in this zone.

Habitat Management and Monitoring

The prairie regions of this zone were converted to agriculture and ranching by early settlers. In 1862, gold was discovered near the current location of Elk City in GMU 15. After the readily available gold was depleted, miners turned to dredging activities where rivers ran through meadows. Crooked, American, and Red rivers were channelized and rerouted several times during the extraction processes, which continued commercially until the 1950s. Logging began as part of mining activities to supply wood for the mines. In the 1940s, logging activities became commercial and resulted in an extensive network of roads throughout a large portion of this zone. In 1964, with the passage of the Wilderness Act, a small portion of GMU 16 was designated as a part of the Selway-Bitterroot Wilderness. In 1978, portions of GMUs 14 and 15 were included in the Gospel Hump Wilderness.

Land ownership in this zone is approximately 80% public with the remaining 20% private. The privately-owned portions are at lower elevations along the Clearwater and Salmon rivers. Approximately 8% of this zone is wilderness. Habitat productivity in GMU 14 is relatively high in comparison to most other Clearwater Region big game GMUs, but productivity in GMUs 15 and 16 is likely declining due to forest succession and fire suppression. Many forested areas in

GMUs 15 and 16 have become overgrown with lodgepole pine and fir due to fire suppression during the past 40+ years. Both open and closed road densities are high within the zone, contributing to significant big game vulnerability during hunting seasons along with relatively high illegal harvest throughout the year. Noxious weeds, especially yellow star thistle and spotted knapweed, have increased within the past 15 years and in some areas are out-competing grasses and forbs on important elk habitats.

The Clearwater Basin Collaborative (CBC), which is a citizen partnership among state, federal, and private collaborators, has driven research since 2013 evaluating the role of nutritional limitations in elk population declines in the Region. The South Fork Clearwater Study Area in GMU 15, and Riggins Study Area in GMU 14, are 2 of 6 study areas selected across the Clearwater Basin in an effort to better understand elk fitness, nutritional status, and habitat use relative to summer forage quantity and quality. Overall, herds in the Basin have relatively low levels of autumn body fat, body size, and pregnancy rates, however, levels were similar to other herds inhabiting dry forest areas of the inland Northwest (Cook et al. 2017). Preliminary results suggest that elk in the South Fork herd have lower body fat levels than the Riggins herd, in addition to lower pregnancy rates, which indicates potential summer nutritional limitations (Cook et al. 2017).

Depredations have increased within the past 10 years in this zone due to increases in both deer and elk populations and changes in land ownership that reduced access for hunting opportunities. Livestock operators are concerned with elk use of pasture and rangeland forage during spring months prior to release of livestock on these grounds. Some damage to grain crops occurs during summer. Several past fencing projects have helped to reduce concerns of elk damaging stored hay during winters with heavy snow accumulation.

Biological Objectives

From 1987 to 2008, cow elk numbers in the zone were stable to increasing and bull elk were increasing. Bull:cow ratios ranged between 12.9 and 13.6 on the 2000 surveys. In 2002, a cap of 1,790 B-tag hunters was initiated. The most recent surveys suggest declines, particularly in GMU's 15 and 16; consequently, reliable recent data of elk numbers is lacking.

Historically, calf recruitment in GMUs 14 and 15 was high, averaging 38 calves:100 cows from 1987–1993. However, the 2000 survey revealed recruitment of 25 calves:100 cows, suggesting that a decline in recruitment occurred, similar to surrounding areas. This trend in low calf recruitment continued through 2015, when 21 calves:100 cows were estimated in GMU 15 during the 2015 survey. Chronic low recruitment is a concern in GMU 16, which averaged 19 calves:100 cows from 1990 –2000 and fell to 17 calves in 2008 and 2015. Cow numbers in GMU 14 declined slightly from 2,402 in 2008 to 2,309 in 2015, however, recruitment increased from 24 to 29 calves:100 cows over the same time period. In 2012, a large forest fire in GMU 14 that improved forage quality may have wintered elk that traditionally wintered in GMU 15, potentially depressing calf recruitment estimates in GMU 15.

Capture, Radio-mark, and or Telemetry

Beginning in winter of 2014 through 2018, GMU 15 in the Elk City zone was prioritized as part of a statewide effort to better understand survival and cause-specific mortality. This data was

used in helping to support the development of an integrated population model to better understand and analyze populations in this zone and others.

Population Surveys and Monitoring

Aerial surveys are conducted on a rotation schedule (every 5 years) and the Elk City zone is current, despite the most recent survey should not have been conducted due to lack of snow. However, due to lack of winter conditions in most recent years, aerial surveys are behind Mountain lion harvest in the zone peaked in the mid 1990's at around 80 lions per year, and then declined to around 35 lions harvested annually from 2002–2012. Since 2012 lion harvest has been trending upwards, with a 2017 –2020 average of 45 lions harvested per year. Anecdotal information suggests a decrease in mountain lion abundance since the 1990s, but lion populations might be increasing since the early 2010s. Black bear harvest has been on an increasing trend over the last decade; from 2017–2019 there were on average 166 bears harvested annually. Wolves have been well established in the zone with 7 documented packs in 2015.

GMU 15 was prioritized as part of a statewide effort to better understand survival and cause-specific mortality. Cause-specific mortality for calves was evaluated from 2015 to 2018. Calf survival from 1 January to 31 May during each year was 100%, 91%, 71%, and 92% respectively, note however, that only 7 and 13 calves were collared in 2017 and 2018. Cumulative cause of death over this time period included unknown predation (3 calves), wolf predation (1 calf), and automobile accident (1 calf). Yearling survival was 100% in 2016, 2017, and 2018 from 1 January to 31 May (no yearlings were collared in 2015). In 2019, yearling survival was 89% during this time frame. From 1 June to 31 December, yearling survival was 75% in 2016, 60% in 2017 (only 5 yearlings collared in 2017), and 91% in 2018, with cause of death attributed to lion predation (4 yearlings), hunter harvest (2 yearlings), unknown predation (1 yearling), and unknown (1 yearling). No yearlings were monitored from 1 June to 31 December for 2019 and all of 2020. Survival in 2016 (5 collared), 2017 (14 collared), and 2018 (15 collared) of adult cows was 100%, 100%, and 93%, respectively. The only mortality was contributed to hunter harvest. Monitored 2019 adult cow (8 collared) survival was 100%. Adult survival in 2020 is 100% but limited to a sample size of 3 animals. Statewide calf survival in 2015, 2016, 2017, 2018, 2019, and 2020 was 82%, 76%, 52%, 68%, 69%, and 73%, respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors. During 2018, statewide calf mortalities were 34% lion predation, 18% unknown predation, 13% wolf predation, 7% malnutrition, and 23% related to other factors including uncertain (n = 15), capture mortality (n = 3), and coyote predation (n = 1). In 2019, lion predation accounted for 40% of statewide calf mortality, while wolf predation and malnutrition comprised 19% and 13%, respectively. Unknown, unknown predation, uncertain, and accidents each made up less than 10% of calf mortality statewide. Lion predation again made up the leading cause of calf mortality during 2020 at 42%, followed by malnutrition (20%), unknown (18%), wolf predation (13%), accident (4%), and disease (2%).

Winter Feeding and Depredation Issues

Emergency winter feeding has not been conducted recently.

Hunting and Harvest Characteristics

Total harvest in the Elk City Zone in 2019 was estimated at 376 elk based on the mandatory harvest report. This represents a 22% decrease in harvest from 2018 (482) and is lower than the three-year average of 462. Total hunter numbers were estimated at 1,746 for 2019 compared to 2,352 hunters for 2018. An average of 25% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 22% hunter success rate.

Disease Monitoring

Captured and collared elk are tested for the following: Bluetongue (BT), Bovine Respiratory Syncytial Virus (BRSV), Bovine Viral Diarrhea Virus (BVD), Infectious Bovine Rhinotracheitis virus (IBR), Epizootic Hemorrhagic Disease virus (EHD). No other disease testing has been conducted recently.

Management Discussion

All 3 GMUs should be surveyed periodically to evaluate population performance relative to plan objectives.

Elk Zone

Elk City (GMU 14, 15, 16)

3-Year Averages (2017-2019)

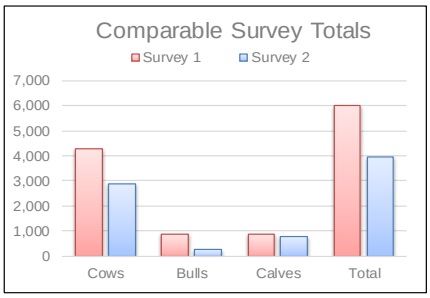
Hunters	2,136	Antlered	319
Hunter Days	14,780	Antlerless	143
Success	22%	% ≥6 Point	25%
Harvest	462		

Zone Characteristics

Square Miles	1,838
% Public Land	82%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2015	2,900	283	151	3,150-4,650	675-1,000	350-575
Bulls per 100 Cows			10	5		18-24	10-14

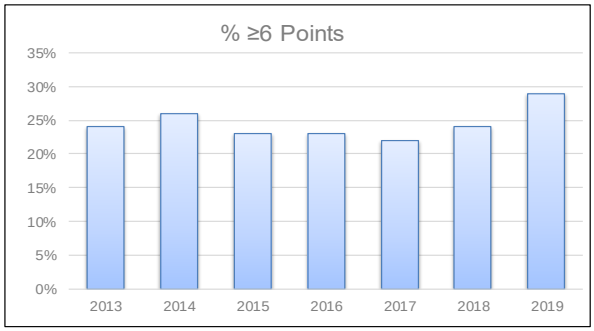


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
14	2008	2,402	419	573	3,394	2015	2,309	203	671	3,183
15	2008	965	169	147	1,281	2015	464	53	98	615
16	2008	897	275	154	1,326	2015	127	27	22	176
Comparable Surveys Total		4,264	863	874	6,001		2,900	283	791	3,974
Per 100 Cows			20	20				10	27	

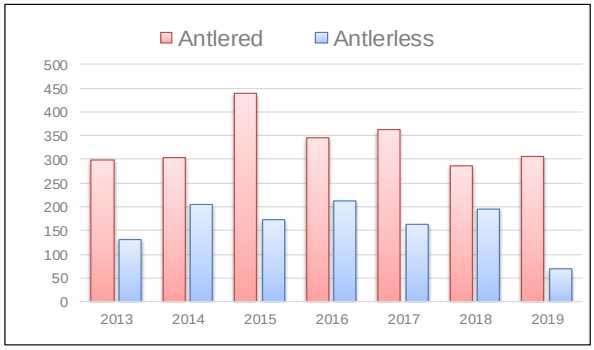
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	86%	91%	71%	92%	-	-
Cow Survival	-	90%	100%	100%	100%	95%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	616	540	557	569	624	637	505
Hunter Days	4,734	3,859	3,985	4,467	4,894	5,786	4,442
Antlered	49	52	39	52	42	22	50
Antlerless	78	97	70	132	87	82	35
Harvest	127	149	109	184	129	104	85
Success Rate	21%	28%	20%	32%	21%	16%	17%
% ≥6	33%	35%	13%	26%	12%	38%	16%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,442	1,612	1,406	1,427	1,544	1,547	1,184
Hunter Days	10,837	10,314	9,512	9,474	9,708	10,233	7,307
Antlered	249	251	401	293	322	263	256
Antlerless	2	8	8	3	0	6	0
Harvest	251	259	409	296	322	269	256
Success Rate	17%	16%	29%	21%	21%	17%	22%
% ≥6	22%	24%	24%	22%	24%	23%	32%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	100	147	124	135	142	168	57
Hunter Days	511	710	553	881	772	818	380
Antlered	0	1	0	0	0	2	0
Antlerless	51	99	95	77	76	107	35
Harvest	51	100	95	77	76	109	35
Success Rate	51%	68%	77%	57%	54%	65%	61%
% ≥6		100%					
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,158	2,299	2,087	2,131	2,310	2,352	1,746
Hunter Days	16,082	14,883	14,050	14,822	15,374	16,837	12,129
Antlered	298	304	440	345	364	287	306
Antlerless	131	204	173	212	163	195	70
Harvest	429	508	613	557	527	482	376
Success Rate	20%	22%	29%	26%	23%	20%	22%
% ≥6	24%	26%	23%	23%	22%	24%	29%



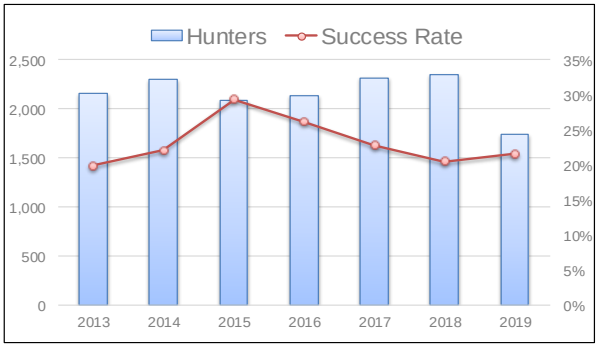


Figure 8. Elk City Zone Elk Status and Objectives.

Selway Zone (GMUs 16A, 17, 19, 20)

Historical Background

Historically, elk herds were scattered and numbers were low in this area. Few big game animals were found along Clearwater River by Lewis and Clark in the early 1800s, probably due in part to the dense, unbroken canopy of forest that covered the entire area. Wildfires burned over vast expanses near the beginning of the twentieth century, creating vast brush-fields that provided abundant forage areas for elk. Elk numbers increased following creation of these brush-fields, and elk numbers apparently peaked around 1950. Elk herds declined into the 1970s, partially due to: 1) maturation of brush-fields and declines in forage availability; 2) logging and road-building activity that increased vulnerability of elk to hunters under the then more liberal hunting seasons; and 3) loss of some major winter ranges. In response to declines in elk numbers, an either-sex hunting regime was replaced in 1976 with an antlered-only general hunting season. Elk herds then began rebuilding.

Management Objectives

Objectives in the Selway Zone (Figure 9) are to establish a population of 4,900–7,300 cows and 1,050–1,550 bulls, including 600–900 adult bulls. The most recent sightability survey in the zone was conducted in 2007 and population levels were below objectives with 3,381 cows, 934 bulls, and 728 adult bulls. An additional survey is needed to assess current population status; however, harvest and anecdotal information suggests the zone is likely still below objectives.

Like the Lolo Zone, management of the Selway Zone elk population and setting appropriate population objectives presents challenges. Calf recruitment remains low (~17 calves per 100 cows). Existing information suggests that both predation and density dependence (habitat limitations) have contributed to the decline.

Antlerless seasons were closed in 1998 to compensate for poor recruitment and 1996 –1997 winter mortality. B-tag sales were capped at 1,255 in 2000; they were reduced further to 1,067 for the 2008 season and 7 days cut from the end of the B-tag season. Also in 2008, the A-tag sales were capped at 647.

Habitat Management and Monitoring

Habitat productivity varies throughout the zone from high-precipitation, forested areas along the lower reaches of Selway River to dry, steep, south-facing ponderosa pine and grassland habitat along Salmon River. Many areas along Salmon River have a good mix of successional stages due to frequent fires within the wilderness. Fire suppression within portions of the Selway River drainage has led to decreasing forage production for big game. Road densities are low, contributing to low vulnerability for big game. Noxious weeds, especially spotted knapweed, have encroached upon, and greatly degraded, many important low-elevation areas of elk winter range in the lower Selway River drainage.

Due to the rugged and remote nature of this zone, human impacts have been very limited. In 1964, almost all of GMU 17 and a small portion of GMU 16A were included in the Selway-Bitterroot Wilderness. Most of GMU 19 became part of the Gospel Hump Wilderness in 1978, and in 1980, part of GMU 20 was included in the Frank Church River-of-No-Return Wilderness.

Historically, the IDFG has been involved with collaborative efforts such as the Clearwater Basin Elk habitat Initiative (1998), the Clearwater Summit (2003), the Clearwater Elk Collaborative (2003) and most recently, the Clearwater Basin Collaborative (2008). These collaborative efforts have supported increased fire frequency and more liberal "let burn" policies. From 2006 to 2009, 50,911 acres were burned from prescribed fire on lands administered by the Nez Perce-Clearwater National Forests. These prescribed burns should complement acres recently impacted by natural fires (large fires burned in GMUs 12, 17, and 20 during the summers of 2012 and 2013).

Biological Objectives

Sightability survey data, collected in this zone from 1987–2001, revealed declining numbers of adult elk and declining recruitment. Declining calf recruitment was initially detected in GMUs 16A and 17 in 1995 surveys. Winter 1996 –1997 was marked by severe conditions, including extremely deep snow exceeding 200% of average snow-pack in some areas. These conditions apparently caused higher-than-normal winter mortality leading to a significant decline in the GMU 16A and 17 herds. Survey data in 1999 suggested a 27% decline in adult elk over both GMUs. Composition surveys in GMU 17 during 2002 and 2003, and a sightability survey in 2004 revealed stable, low recruitment at 16 calves:100 cows, but in 2005 it declined to 11.0 calves:100 cows. In GMU 16A, the 2004 sightability survey revealed higher recruitment than in 1999.

Low calf recruitment was not observed in GMUs 19 and 20 until 1996. Survey data in 2001 suggested a significant decline in GMU 20 elk, but a significant increase in GMU 19 elk. However, fire activity during summer/fall 2000 may have been responsible for significant changes in elk distribution among GMUs 19, 19A, 20, and 20A. The 2007 sightability survey showed declines in total numbers in all the Selway Zone GMUs and further declines in recruitment in GMUs 16A and 17.

Capture, Radio-mark, and or Telemetry

No capture or radio-marking has been conducted recently.

Population Surveys and Monitoring

No sightability surveys have been conducted since 2007 and an additional survey is needed to assess current population status. However, due to lack of winter conditions in most recent years, aerial surveys are behind schedule. Aerial surveys are done on a rotation schedule (every 5 years).

Inter-specific Issues

The zone supports small, isolated white-tailed deer populations, low-density mule deer populations, and low-density moose populations. Grazing by cattle is virtually nonexistent.

Predation Issues

Selway Zone mountain lion harvest has remained static over the past decade. Black bear harvest is likewise stable. Wolf harvest has been minimal as well, ranging from 1 to 9 over the past 3 harvest seasons. In this zone, it is doubtful that harvest levels reflect population trend but rather reflect the remote, rugged nature of the habitat which, in combination with little access, precludes significant mountain lion, bear, or wolf harvest. Recent trends in mountain lion and bear populations are questionable. Wolves have been well established in this zone since the early 2000's, however, better information on wolf distribution and density within the zone would be useful to better address impacts of wolf predation on this elk population.

To gain a better understanding of cause-specific calf survival and management implications across the State, the IDFG began collaring calves in multiple statewide GMUs in 2015. Within the Clearwater Region, GMUs 10A and 15 were included in this statewide monitoring effort. From 2015–2017, there were 22 calf mortalities in GMU 10A (69 total collared, 68% overall survival) with the main causes of mortality including malnutrition (27%, n=6), unknown predation (27%; n=6), and mountain lion predation (23%; n=5). From 2018–2020, there were 41 calf mortalities in GMU 10A (82 total collared, 49% overall survival) with main cause of mortality produced by predation including wolf (32%; n=13%) and mountain lion predation (24%; n=10). Unknown, malnutrition, accident, and unknown predation made up 27%, 7%, 5%, and 5% mortality, respectively. Only 5 calf mortalities occurred in GMU 15 from 2015–2018 (58 total collared, 91% overall survival), including 3 from unknown predation, 1 from wolf predation, and 1 from an automobile accident. Statewide calf survival in 2015, 2016, 2017, 2018, 2019, and 2020 was 82%, 76%, 52%, 68%, 69%, and 73%, respectively. Of those calf mortalities in 2015, 72.5% were due to lion predation, 22.5% wolf, and 5.0% accident. Lion predation again was the dominant cause of death in 2016 (35%) followed by 18% wolf predation, 16% malnutrition, 11% unknown predation, 6% accident, and 14% other factors. In 2017, statewide calf mortalities were 40% malnutrition, 29% lion predation, 9% unknown, 7% wolf, 6% unknown predation, and 9% other factors. During 2018, statewide calf mortalities were 34% lion predation, 18% unknown predation, 13% wolf predation, 7% malnutrition, and 23% related to other factors including uncertain (n = 15), capture mortality (n = 3), and coyote predation (n = 1). In 2019, lion predation accounted for 40% of statewide calf mortality, while wolf predation and malnutrition comprised 19% and 13%, respectively. Unknown, unknown predation, uncertain, and accidents each made up less than 10% of calf mortality statewide. Lion predation again made up the leading cause of calf mortality during 2020 at 42%, followed by malnutrition (20%), unknown (18%), wolf predation (13%), accident (4%), and disease (2%).

Winter Feeding and Depredation

Emergency winter feeding has not been conducted recently.

Hunting and Harvest characteristics

Total harvest in the Selway Zone in 2019 was estimated at 256 elk based on the mandatory harvest report. This represents a 5% increase in harvest from 2018 (244) and is slightly above the previous three-year average of 241. Total hunter numbers were estimated at 1,243 for 2019 compared to 1,249 hunters for 2018. An average of 44% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 20% hunter success rate.

Disease Monitoring

Disease monitoring has not been conducted recently.

Management Discussion

Aerial surveys should be conducted periodically to obtain adequate information to evaluate population performance relative to plan objectives. Better information is needed on wolf numbers, pack distribution, and impacts on elk in this zone.

Elk Zone

Selway (GMU 16A, 17, 19, 20)

3-Year Averages (2017-2019)

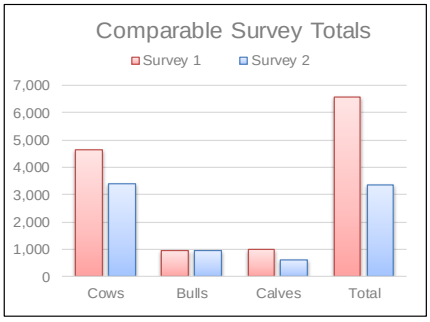
Hunters	1,198	Antlered	241
Hunter Days	8,610	Antlerless	0
Success	20%	% ≥6 Point	44%
Harvest	241		

Zone Characteristics

Square Miles	2,527
% Public Land	99%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2007	3,381	934	728	4,900-7,300	1,050-1,550	600-900
Bulls per 100 Cows			28	22		25-29	14-18

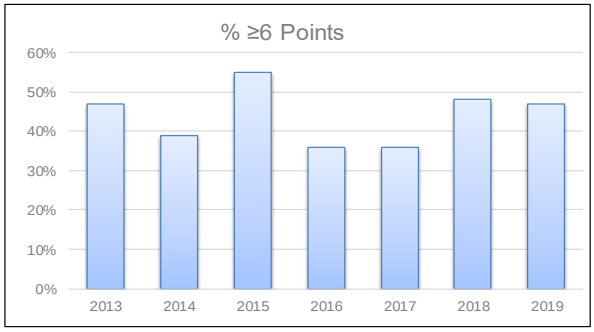


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
16A	2004	457	96	130	683	2007	389	105	63	557
17	2004	2,076	486	332	2,894	2007	1,526	466	153	615
19	2001	1,508	240	394	2,142	2007	977	237	241	1,455
20	2001	596	138	120	854	2007	489	126	132	747
Comparable Surveys Total		4,637	960	976	6,573		3,381	934	589	3,374
Per 100 Cows			21	21				28	17	

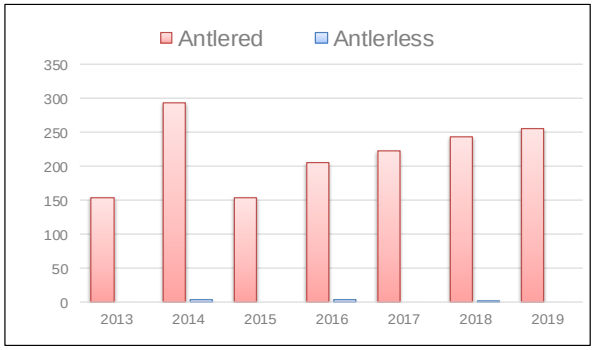
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	-	-	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	161	343	188	220	277	290	317
Hunter Days	1,058	2,862	1,380	1,399	2,146	2,085	2,494
Antlered	34	57	36	42	56	42	51
Antlerless	0	0	0	0	0	0	0
Harvest	34	57	36	42	56	42	51
Success Rate	21%	17%	19%	19%	20%	14%	16%
% ≥6	74%	33%	58%	8%	28%	48%	31%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	540	1,050	603	778	825	955	926
Hunter Days	3,803	6,926	4,160	5,554	5,637	6,857	6,595
Antlered	119	236	118	163	167	202	205
Antlerless	0	4	0	3	0	1	0
Harvest	119	240	118	166	167	203	205
Success Rate	22%	23%	20%	21%	20%	21%	22%
% ≥6	39%	40%	53%	43%	38%	47%	51%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	4	0	0	0	0	4	0
Hunter Days	36	0	0			16	
Antlered	0	0	0			0	
Antlerless	0	0	0			0	
Harvest	0	0	0	0	0	0	0
Success Rate	0%					0%	
% ≥6							
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	705	1,393	791	998	1,102	1,249	1,243
Hunter Days	4,897	9,788	5,540	6,953	7,783	8,958	9,089
Antlered	153	293	154	205	223	244	256
Antlerless	0	4	0	3	0	1	0
Harvest	153	297	154	208	223	245	256
Success Rate	22%	21%	19%	21%	20%	20%	21%
% ≥6	47%	39%	55%	36%	36%	48%	47%



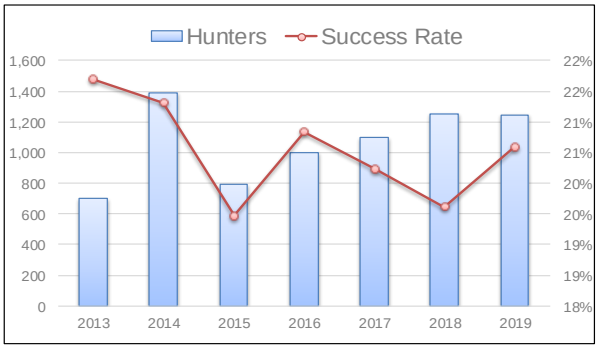


Figure 9. Selway Zone Elk Status and Objectives.

Sawtooth Zone (GMUs 33, 34, 35, 36)

Historical Background

Both mule deer and elk herds were over-harvested for hides and meat for mining camps in the mid-to-late 1800s. Lack of big game in the area resulted in the Idaho Legislature establishing the South Fork Game Preserve (now GMU 35) in 1909. This was the first game preserve in Idaho and remained in place until 1977. No hunting was allowed in the preserve until 1945 and deer populations increased rapidly. The elk herd increased to >1,000 by 1940 and approximately 2,000 by the early 1950s. Elk populations started rebounding in the late 1970s and peaked at a high of 7,200 elk in the early 1990s. The most recent sightability survey conducted in January 2017, estimated about 4,000 elk in the zone.

Sawtooth Zone is a popular destination for elk hunters from the Boise and Magic Valley areas. Hunter numbers declined to approximately 3,000 in 2009 when a quota was implemented that decreased the number of tags sold for the following 3 years. Numbers declined to about 2,000 in 2011 when the full quota was implemented. Antlerless harvest has averaged 78 elk during the past 3-years, and average antlered harvest increased 3% from the 3-year average (Figure 10).

Zone quotas on tags were implemented in 2009, and are based on population status during the 2009 winter survey. Tag reductions were phased in over a 3-year period, and leveled off at ~1,500 B-tags, and ~550 A-tags. These numbers equate to a 46% reduction from 2008 tag numbers. Both the A and B tag quotas were increased for the 2019 season, reflective of the increase in bulls in the zone.

Management Objectives

Objectives for Sawtooth Zone (Figure 10) include maintaining a population of 3,000–4,500 cows and 630–945 bulls, including 360–540 adult bulls in the wintering population in this zone. Bull:cow and adult bull:cow ratios will be managed at 18–24 bulls:100 cows and 10–14 adult bulls:100 cows, the statewide general zone. A harvest of ≥750 bulls each year is desired; however, this goal has been unattainable this decade and is unlikely to occur in the near future based on current status of this elk herd. These objectives reflect a balance between the desire for a relatively large elk population for hunting and viewing, and concerns about feeding elk during winter. The winter elk objectives have only been met once in the mid-90s, which was the same era when elk were being fed in the Stanley basin (GMU 36).

Habitat Management and Monitoring

More than 90% of the land in the zone is managed by the USFS. Access ranges from areas of relatively high road density between Garden Valley and Lowman to the Frank Church River-of-No-Return Wilderness and Sawtooth National Recreation Area. In several areas, road densities are very high and access management programs could provide less motorized access to address elk vulnerability issues. However, limiting motorized vehicle access has been met with great resistance from land management agencies, organized motorized groups, and other state agencies with different priorities and objectives. Reducing motorized access may also increase the perception of hunter crowding in areas that remain open to motor vehicles.

Habitat conditions on winter range have been an important consideration since the early 1930s. Reports by USFS and National Park Service biologists described conditions of degraded winter range in 1932. There have been numerous attempts to improve habitat on winter range, but none have shown significant success. Currently, most south and west-facing slopes along the south fork of the Payette River are dominated by rush skeleton weed and invasive annual grasses, severely reducing the value of thousands of acres of important winter range for elk and deer.

Elkcaused damage to several ranches (primarily cattle and small horse feeding operations) in the Garden Valley area during the early and mid-2000s. During spring, elk concentrate on new forage growth on private rangeland in the Garden Valley area. Depredation complaints declined to almost zero between 2008 and 2013. However, complaints during 2014–2017 increased as the elk population has started to rebound (primarily for fence damage and cattle rangeland/pasture). Very limited winter range in the Stanley area has been impacted by non-migratory elk that are being fed through the winter by locals. However, this wintering herd has been reduced from nearly 500 animals to only about 20–40 by 2012. In previous years, portions of local summer range were also noticeably impacted by elk; however, recent elk densities and distribution patterns do not appear to be cause for concern.

Biological Objectives

Following a regional trend, the elk population south of the Salmon River had increased dramatically until the late 1990's. Calf recruitment in the past has been high; however, fluctuation in calf:cow ratios over the last few years has been common. The 2013 and 2017 sightability surveys documented improvement in both calf:cow (39:100 and 36:100 respectfully) and bull:cow (14:100 and 17:100 respectfully) ratios over those observed in 2009 (19:100 calf:cow, 9:100 bull:cow). Calf ratios of 46:100 were documented during a comp survey in 2014 and averaged 36:100 during 2015–2019.

Capture, Radio-mark, and or Telemetry

Elk have been monitored extensively in the Zone since 2008. Between 2008 and 2012 elk were marked with GPS collars to study the effect of predators (mainly wolves) on elk along the South Fork Payette River. Between March 2014 and January 2020, 202 calves and 40 cows were captured and marked with radio-collars. This effort has allowed managers to monitor survival of 6-month old calves to full recruitment into the population. Spring recruitment rates of 44:100, 27:100, 24:100, 6:100, 29:100, and 21:100 were documented in 2014, 2015, 2016, 2017, 2018, and 2019 respectively. The low year of 6:100 followed one of the heaviest snow-pack winters on record since the collar efforts started. Previously captured cow elk are also followed to monitor survival and aid in management of this elk herd. Cow survival averaged 93% during the past 6 years.

Population Surveys and Monitoring

The latest population survey occurred in winter 2017. The sightability survey estimated 2,659 cows, 472 bulls, and 967 calves, a 10% increase overall compared to 2013 survey, but still below objective (Figure 10). Survey conditions in 2017 were not ideal as heavy snows fell during the survey period and elk were very widely scattered along drainages in heavy cover. GMU 36 was also not flown during this survey; thus, the population estimate is conservative. The next survey

is scheduled to occur in 2021. Herd composition surveys have been conducted annually since 2009 to ascertain calf:cow ratios and recruitment. During January 2019, a composition survey was flown in parts of GMU 33 and 35. A total of 1,173 elk were classified, resulting in a calf:cow ratio of 33:100.

The Sawtooth Zone is a summer-range destination for elk both in the Sawtooth Zone and from surrounding elk zones. GMUs 34 and 36 are high-elevation GMUs with abundant high-quality summer range. These 2 GMUs have few wintering elk because of their high-elevation. Due to an influx of migrating elk in summer and fall, the elk population in GMU 36 increases from a few hundred to over 4,000 elk during the hunting season.

Inter-specific Issues

The Garden Valley area has been a significant wintering area for mule deer. In the early 1940s, estimated winter deer populations were from 5,000–12,000. The elk population consisted of <2,000 animals. From 1964 to the late 2000s it was estimated that mule deer numbers did not exceed 2,000 and there were approximately 5,500 elk wintering in the area. In recent years the ratio of deer and elk has shifted. In 2017, 4,000 elk were estimated on winter range. Mule deer were surveyed in January 2011, and approximately 4,500 deer were estimated in GMUs 33 and 35. Livestock grazing has been significantly reduced over the last 60 years; however, domestic sheep grazing in localized areas (Middle Fork Payette drainage) have reduced habitat quality by removing nearly all the understory vegetation in localized areas.

Predation Issues

Black bear, wolf, and mountain lion populations are well established in the Sawtooth Zone. Sightability surveys conducted in 2009 indicated calf survival was extremely low. According to radio-collar research conducted between 2008 and 2012 by IDFG, wolf predation was a leading source of mortality for 6 month elk calves and cows in the Sawtooth Zone. However, both calf:cow ratios and calf survival have rebounded and stabilized in recent years. Neonate survival has not been researched. Neonate survival was studied in the nearby Salmon Zone, where black bears were the leading cause of predation on newborn elk claves. Lion predation occurs year-round and has been the primary cause of mortality in both cow and calf elk during all winters between 2014 and 2018.

Current calf:cow ratios have stabilized during the past 5 years and has averaged 38:100. Calf:cow ratios well below normal ranges for this elk herd were documented in 2008 and 2009, but improved in 2010 following a wolf hunting season and mild winter. Just as important, winter survival rate of calves improved in 2010, which resulted in an estimated end-of-winter calf:cow ratio of 31:100. In 2011, early-winter calf:cow ratios were again improved; however, winter survival rate of calves was low, and the estimated calf:cow ratio at the end-of-winter was 19:100. Thirty-eight calves:100 cows were documented in early 2013, double what was observed in 2009. Calf ratios of 46:100 were documented during a comp survey in early 2014, and high winter survival rate of calves was documented. Improvements in calf survival coupled with higher early-winter calf:cow ratios are occurring at the same time that wolf numbers are being reduced through regulated wolf hunting. Impacts of wolves on elk population dynamics have been a significant issue for elk management in this zone, and will continue to be monitored very

closely. The IDFG has developed, approved, and implemented a predation management plan for the Sawtooth Elk Zone.

Winter Feeding and Depredation

Sawtooth Zone has been a focal point for winter feeding since the 1930s. Severe winter mortality occurred on a regular basis starting in 1932 when 93 dead elk were found and 1,800 dead deer were buried along South Fork Payette River. Winter feeding programs for mule deer started shortly thereafter. Within a few years, elk were consuming more feed than mule deer. Winter feeding has only occurred twice in the past 10 years. The winter of 2016–2017 was the worst on record. Approximately 450 deer and 600 elk were fed by IDFG at 22 feed sites along the Middle and South Fork Payette Rivers in GMU's 33 and 35.

There has been no evidence of Brucellosis in elk at any of the feed sites. There is some concern about feeding mule deer on limited deer winter range in Garden Valley. Elk and deer winter range overlap and elk often out-compete deer at feed sites. Placing feed sites in areas not used by deer should be considered to alleviate this concern. Additionally, identifying sites used more often by deer may help balance deer and elk sites along the South Fork Payette River. Elk and deer also have different nutritional needs, and pellets formulated for one species, may not provide adequate nutrition for the other. Native range has the capability to support the current elk herd in nearly all situations. However, there is considerable public demand for feeding elk, mainly where wintering deer and elk are observable by the public concern about the welfare of the herd

Historically, winter feeding occurred in the Stanley Basin where they could not survive severe winters without supplemental feed. The herd grew to 500–1,000 animals and severely impacted the small amount of natural winter range available. During the early to mid-2000's winter feeding ceased and antlerless hunting that targeted the wintering population reduced numbers to a much lower level. Currently, between 100–200 elk spend their winter in GMU 36.

Hunting and Harvest Characteristics

Total harvest in the Sawtooth Zone in 2019 was estimated at 638 elk based on the mandatory harvest report. This represents a 5% increase in harvest compared to 2018 (606) and is 9% higher than the previous three-year average of 579. Total hunter numbers were estimated at 2,755 in 2019 compared to 2,058 hunters in 2018. On average, 36% of the bulls harvested in these GMUs over the past 3 years (2017 –2019) have been 6-point or larger and hunter success averaged 26%.

Disease Monitoring

No specific disease monitoring occurred within the zone during the reporting period.

Management Discussion

Information about impacts of several large fires in the last 10 years on calving, summer, or winter ranges is needed. Potential impacts of the new mix of large predators are being studied by IDFG researchers, but more information is needed to determine how all the predators and prey interact in the zone. Inventory and mapping of current range of rush skeleton weed on summer and winter habitats is desirable in understanding the impacts on carrying capacity.

Elk Zone

Sawtooth (GMU 33, 34, 35, 36)

3-Year Averages (2017-2019)

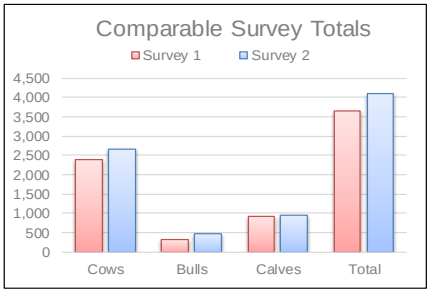
Hunters	2,284	Antlered	502
Hunter Days	16,431	Antlerless	78
Success	26%	% ≥6 Point	36%
Harvest	579		

Zone Characteristics

Square Miles	2,541
% Public Land	97%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2017	2,659	472	272	3,000-4,500	630-945	360-540
Bulls per 100 Cows			18	10		18-24	10-14



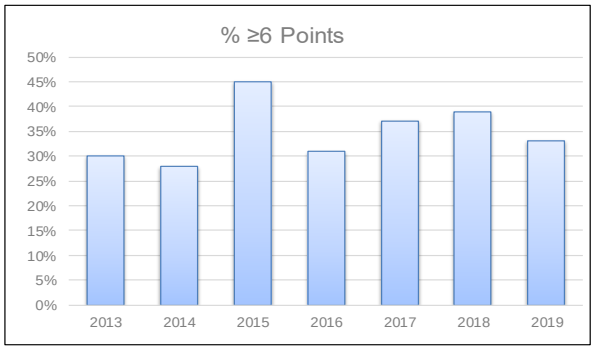
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
33	2013	2,396	324	926	3,646	2017	2,630	468	951	4,049
34, 35	ND					ND				
36	ND					2017	29	4	16	49
Comparable Surveys Total		2,396	324	926	3,646		2,659	472	967	4,098
Per 100 Cows			14	39				18	36	

Note: ND = no survey data available.

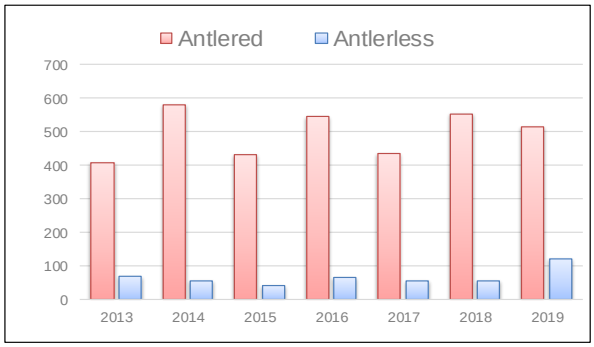
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	47%	61%	19%	81%	66%	70%
Cow Survival	-	100%	93%	89%	98%	92%	95%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	518	629	489	477	529	525	924
Hunter Days	4,085	5,756	3,914	3,625	4,939	4,442	8,448
Antlered	84	160	88	116	96	125	134
Antlerless	30	24	24	35	26	29	45
Harvest	114	184	112	151	122	154	179
Success Rate	22%	29%	23%	32%	23%	29%	19%
% ≥6	43%	39%	52%	48%	39%	46%	50%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,432	1,550	1,219	1,243	1,396	1,432	1,610
Hunter Days	8,978	9,644	6,630	8,020	8,776	9,399	10,936
Antlered	306	411	330	420	333	416	379
Antlerless	5	0	0	0	0	0	2
Harvest	311	411	330	420	333	416	381
Success Rate	22%	27%	27%	34%	24%	29%	24%
% ≥6	26%	25%	45%	27%	37%	36%	27%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	124	103	96	107	114	101	221
Hunter Days	741	580	560	689	614	688	1,051
Antlered	18	11	14	9	8	11	3
Antlerless	34	32	19	30	31	25	75
Harvest	52	43	33	39	39	36	78
Success Rate	42%	42%	34%	36%	34%	36%	35%
% ≥6	50%		15%		100%	19%	
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,074	2,282	1,804	1,827	2,039	2,058	2,755
Hunter Days	13,804	15,980	11,104	12,334	14,329	14,529	20,435
Antlered	408	582	432	545	437	552	516
Antlerless	69	56	43	65	57	54	122
Harvest	477	638	475	610	494	606	638
Success Rate	23%	28%	26%	33%	24%	29%	23%
% ≥6	30%	28%	45%	31%	37%	39%	33%



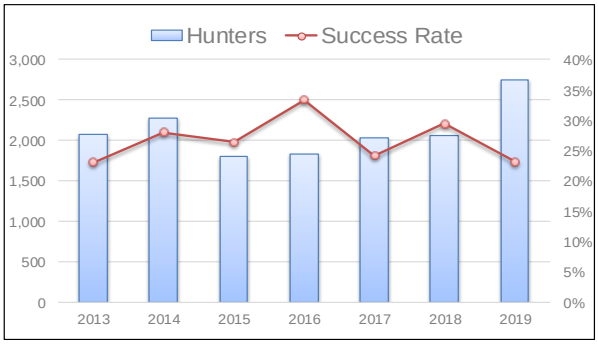


Figure 10. Sawtooth Zone Elk Status and Objectives.

Owyhee Zone (GMUs 38, 40, 41, 42,)

Historical Background

During the late 1800s, elk in the Owyhee Zone were nearly eliminated due to unrestricted hunting and conflicts with the area's growing livestock industry. Elk from Yellowstone National Park were released near Murphy, ID in the 1950s. Elk densities remained low throughout the twentieth century, but began to increase in the 1990s. Recently, ingress from the rapidly growing northern Nevada elk population and natural reproduction has contributed to herd growth.

Nevada Division of Wildlife (NDOW) efforts to reestablish elk in the northern portion of that state have been very successful. Elk are expanding their range into suitable habitats in Nevada and Idaho that have not had resident elk for nearly a century. Translocations have been used to hasten the growth in elk numbers. Since the mid-1980s, 523 elk were released into 5 areas in Elko County, Nevada. In 2017, NDOW counted 3,742 elk in this population between both states.

GMUs 38, 40, 41, and 42 – While an elk is occasionally documented in GMU 38, it is uncommon and elk are not likely to establish, or be encouraged to establish, in this GMU due to agricultural practices.

Elk in GMUs 40 and 42 are suspected of using winter ranges in both Idaho and Oregon. In GMU 41, wintering elk move up in elevation to GMU 40 or move south to summer ranges in Nevada, although an increasing number are staying in GMU 41 year-round.

Nevada conducted its most recent aerial survey on the Idaho/Nevada border in 2017. A total of 2,120 elk were counted in Idaho west of the Bruneau River; with a calf:cow ratio of 38:100, and bull:cow ratio of 40:100. Additional cow and bull tags have since been added to GMU 41 to help alleviate depredation concerns with this growing elk herd.

Management Objectives

The objective in the Owyhee Zone (Figure 11) is to maintain or increase the elk population as long as it is socially acceptable and does not impact the mule deer population.

The GMUs within this zone vary in their potential to sustain elk populations under current biological and social constraints. Management will retain enough flexibility to adjust elk numbers to address issues that may arise, particularly depredations on private property.

Habitat Management and Monitoring

Habitat quality varies considerably within the Owyhee Zone, as does the potential for depredation issues. Most elk habitat in Owyhee County is managed by the Bureau of Land Management or the Idaho Department of Lands; however, small parcels of private property include habitats that receive substantial elk use.

Juniper encroachment is a concern in portions of GMUs 40 and 42. While juniper does provide screening cover, it generally reduces habitat quality for elk. Efforts are underway on both private and public land to remove juniper.

Biological Objectives

Because elk densities have traditionally been low in this zone, sightability surveys have not been conducted to provide data on population dynamics. Elk objectives are not derived from aerial surveys due to expansive land area, dispersed groups of elk, poorly defined winter range, difficult winter access, and interstate migratory patterns. Anecdotal information suggests these populations are increasing, but accurate estimates of population size are unavailable. Increases in elk numbers are inevitable from natural reproduction and continued ingress of elk from Nevada.

Capture, Radio-mark, and or Telemetry

We initiated an elk monitoring study in the Owyhee Zone in 2018 to determine elk use of public versus private land, spatial and habitat use, and causes of mortality. Our 2020 elk capture was delayed to summer due to weather, and the Covid-19 pandemic.

Population Surveys and Monitoring

We conducted no aerial population surveys during winter 2019-2020. We monitored 30 collared cow elk during the reporting period.

Inter-specific Issues

The Owyhee Zone has traditionally had a large population of mule deer; although deer numbers have declined in past decades. The current elk population is not believed to have negative impact on mule deer numbers.

Conflicts between elk and livestock have been a major influence on elk management in portions of Owyhee County. Concentrations of elk on private land holdings in Owyhee County have created depredation problems. Landowners' major concerns are damage to fences and loss of private rangeland forage. The IDFG works closely with private landowners to alleviate chronic problems. On public lands, any resource damage attributed to elk will be jointly evaluated by IDFG and the managing agency.

Predation Issues

Mountain lions are the primary predator of elk in this zone. Predation is presently not a major factor limiting growth of these elk populations, nor is it anticipated to become a concern.

Winter Feeding and Depredation

There has been no recent winter-feeding of elk in this zone.

Hunting and Harvest Characteristics

Total harvest in the Owyhee Zone in 2019 was 328 elk based on the mandatory harvest report. This represents a 15% increase from 2018 (286) and is higher than the previous three-year average of 261. This is due to increased tag numbers in 2019. Total hunter numbers were 881 in 2019 compared to 635 for 2018. An average of 81% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6 point or larger with a 43% hunter success rate.

Disease Monitoring

We did not conduct elk disease monitoring in the Owyhee Zone in 2019.

Management Discussion

Current population estimates are based on reports from ranchers, biologists, and hunters, but better data will be necessary to manage anticipated higher numbers. In the future we hope to develop survey methods to produce population estimates. We will also continue our elk study to determine spatial and habitat use on private and public land.

Elk Zone

Owyhee (GMU 38, 40, 41, 42)

3-Year Averages (2017-2019)

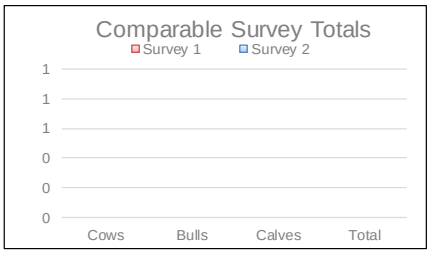
Hunters	702	Antlered	107
Hunter Days	3,555	Antlerless	187
Success	43%	% ≥6 Point	81%
Harvest	294		

Zone Characteristics

Square Miles	8,003
% Public Land	72%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total							
Bulls per 100 Cows						18-24	10-14



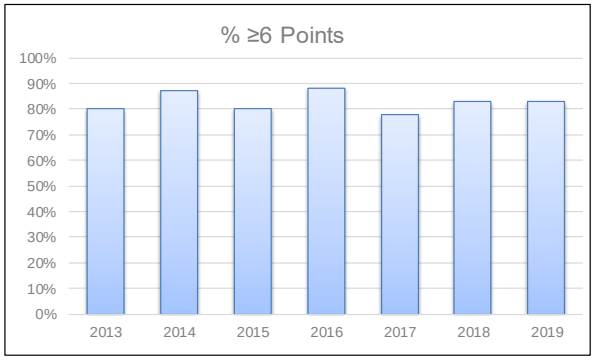
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
38, 40, 41, 42	ND				0					0
Comparable Surveys Total		0	0	0	0		0	0	0	0
Per 100 Cows										

Note: ND = no survey data available.

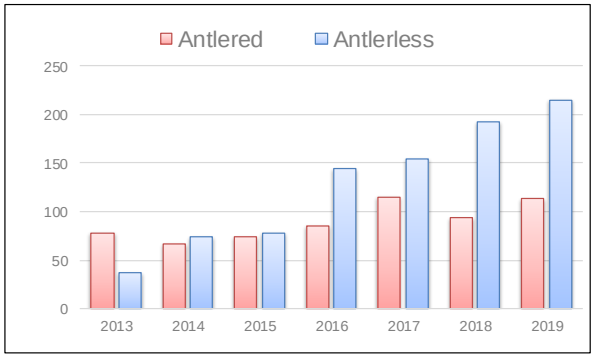
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	100%	100%	100%	95%	100%	91%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	281	305	359	486	591	635	881
Hunter Days	1,879	1,877	2,061	2,490	3,052	3,140	4,472
Antlered	78	67	74	85	115	94	113
Antlerless	37	74	78	144	154	192	215
Harvest	115	141	152	229	269	286	328
Success Rate	41%	46%	42%	47%	46%	45%	37%
% ≥6	80%	87%	80%	88%	78%	83%	83%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	281	305	359	486	591	635	881
Hunter Days	1,879	1,877	2,061	2,490	3,052	3,140	4,472
Antlered	78	67	74	85	115	94	113
Antlerless	37	74	78	144	154	192	215
Harvest	115	141	152	229	269	286	328
Success Rate	41%	46%	42%	47%	46%	45%	37%
% ≥6	80%	87%	80%	88%	78%	83%	83%



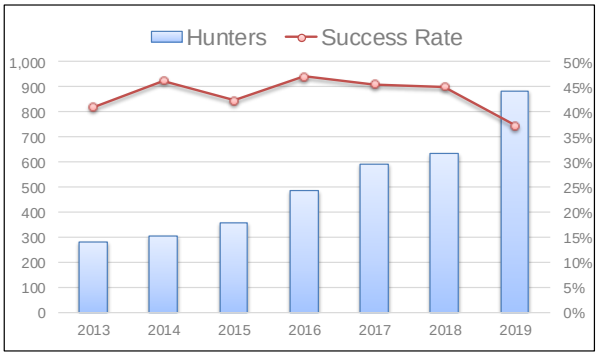


Figure 11. Owyhee Zone Elk Status and Objectives.

Boise River Zone (GMU 39)

Historical Background

In the early 1900's, elk herds in the Boise River drainage were heavily harvested for hides and meat for mining camps in the area. Sparse elk herds in Idaho were bolstered with translocated elk from the Yellowstone area in the late 1930s. Relatively liberal either-sex seasons were maintained in this zone until the early 1970s, suppressing the herds well below habitat potential. In 1975, bull-only hunting was implemented and season structure overlapped general deer season. In the early 2000's the general elk season moved away from October general deer hunt. This was done to address hunter congestion/conflicts between deer and elk hunters, and to address concerns about overharvest of bulls. Since then, the wintering herd has increased to over 7,000 head.

The interest in elk hunting in Boise River Zone increased along with growth in the elk population. Boise River is one of the most popular elk zones in the state with approximately 5,400 hunters. This zone may be increasing in popularity due to human population increase, its proximity to Boise, and limited over-the-counter opportunities in other zones, including the quota implemented in the Sawtooth Zone.

Management Objectives

Objectives for Boise River Zone (Figure 12) are to maintain a population of 3,200–4,800 cows and 650+ bulls, including 375+ adult bulls. Management in the southern and west portions of the zone has focused on addressing significant landowner concerns about elk depredations. Currently, this zone is meeting objectives for elk.

Habitat Management and Monitoring

Boise River Zone includes 2,455 miles^2 of excellent elk habitat. The conditions range from wilderness in Sawtooth National Recreation Area to areas with high road density near Boise. Boise National Forest manages the majority of summer habitat occupied by elk.

There are large areas of private land on the west side of the zone in the Horseshoe Bend area. Landowners in this area have suffered significant damage to hay crops and private rangeland. We are addressing these issues through increased sportsman opportunities, such as LPH hunts, increased tag numbers, as well as through occasional kill permits. On the south side of the zone, winter and spring concentrations of elk have been in conflict with livestock operations, primarily on rangeland, but occasionally with crops. Urban expansion in the foothills around Boise has led to significant conflicts with wintering elk. The loss of winter range and conflicts with homeowners may be one of the most serious factors limiting elk populations in Boise River Zone.

Several large wildfires have converted shrub lands to grasslands, and may have improved some wintering conditions for elk. The effects of wildfire in summer and transition ranges have generally improved conditions for elk. However, rush skeleton weed (*Chondrilla juncea*) has invaded many of the lower southwest-facing slopes, and poses a serious threat to elk winter range. Skeleton weed is likely to have long-term implications, and will reduce the carrying capacity of habitat for elk. This is especially true on and around the Boise River Wildlife

Management Area where the majority of the area burned in the 2016 Highland Fire is dominated by rush skeleton weed.

Biological Objectives

The implementation of bull-only hunting and a series of mild winters in the late 1980s increased elk survival in this zone. Calf recruitment is fair to good with a ratio of 28–50 calves per 100 cows, although calf numbers have been on the low end of the range for several years. Bull harvest exceeded the potential for bull calf recruitment through much of the 1990s. For example, in 1997, 664 bulls were harvested and an estimated 550 bull calves were recruited. Seasons were adjusted in 2002 to move the general bull hunt out of the period of overlap with general deer season with the hope of reducing bull harvest to below replacement potential. In 2003, only 369 bulls were harvested. Recently, bull harvest levels have increased to near previous levels as the elk population increased. Furthermore, between 500 and 1,000 antlerless tags have been offered during the general deer season in addition to a 500 tag controlled antlerless only muzzleloader hunt in September. Antlerless opportunity will continue to be offered to maintain elk herds at current levels and to address depredation concerns with landowners.

Capture, Radio-mark, and or Telemetry

Sixteen calves were captured and equipped with GPS collars in 2019-2020 to assess over-winter survival and seasonal migrations. An additional 16 previously marked individuals were also monitored during this reporting period. The information generated by this collaring effort has helped identify important calving areas and migration corridors. This information has also been used by USFS and BLM to develop travel management plans that may protect elk during vulnerable periods.

Population Surveys and Monitoring

During sightability surveys in February 2011, over 2,600 elk were located between Interstate 84 and the South Fork Boise River. It is speculated that heavy snow accumulations in the high country, the closure of the South Fork feeding station, and possible pressure from wolves have pushed elk lower in recent years than what was previously documented.

In January 2015, the Boise River and Smokey-Bennett Zones were surveyed at the same time. An estimated 7,199 elk were observed in GMU 39 with calf:cow ratio at 24:100 and bull:cow ratio of 23:100. Results were very similar to the 2011 survey.

Inter-specific Issues

Boise River Zone (GMU 39) is also one of the top mule deer hunting GMUs in Idaho. Except for weed expansion, other recent changes to habitat have favored elk. Winter survey flights show the separation of wintering deer and elk. Mule deer are not using some of the wintering areas they used when elk numbers were lower.

Predation Issues

Black bear and mountain lion populations are well established and apparently stable in Boise River Zone. The mountain lion population is well above levels of the 1950s. Wolves were

reintroduced in Idaho in 1995. On occasion, wolves ventured into the GMU during 1995–2002. By the end of 2006, wolves from 5–7 packs had occupied portions of the Boise River zone. Necropsy data collected in 2018 indicate predation was not been a primary cause of elk mortality in the zone.

Winter Feeding and Depredation

Winter feeding sites were maintained along Middle Fork Boise River for both deer and elk through the 1950s. The only elk winter feeding that has taken place in the last 20 years has been around subdivisions to bait elk away from problem areas. Native range has the capability to support the current elk herd in nearly all situations.

In March 2011, approximately 35% (2,621elk) of all elk observed (7,275) in the zone were found in the Mayfield area where significant complaints from landowners about elk depredation have occurred. Conversely, in 2000, only 422 elk were observed near Mayfield, which represents 10% of all elk surveyed in the zone that year. Radio collars were placed on elk in the area in 2009. Data collected from this telemetry effort suggested that over 1,800 elk wintering in Mayfield may be spending the hunting season outside of GMU 39. Ground and aerial survey efforts conducted in 2013 showed approximately 600–700 elk wintered in the Mayfield area that year. During the 2015 survey approximately 360 elk spent the winter in the flats along the Danskin Front. An additional 1,800 elk wintered in the Danskin Mountains between Highway 20 and Black's Creek Road.

In 2009, the Mayfield/Danskin area was removed from the general season hunt and a controlled either-sex hunt was added. This was done to address concerns from landowners about trespass hunting, illegal off-road vehicle use, and general unethical behavior. In 2015, several changes to the elk season framework were made to assist landowners with depredation issues in this area, including elimination of the January landowner permission hunt (LPH) at landowner request, extending the December LPH to 1 Oct–31 Dec, and increasing tags from 100 to 300. Additionally, resources were repositioned to provide technical assistance to landowners, create range rehabilitation and range improvement projects for wildlife and livestock, and help mitigate for elk depredations. Another LPH hunt with 75 tags was added to the Horseshoe bend area to address increasing depredation issues at the request of landowners in 2015.

Landowner permission hunts have been somewhat effective at reducing landowner complaints about elk in past years in the Horseshoe Bend area. Additionally, fewer landowner complaints have occurred in the Mayfield area since 2015, likely because the majority of elk have remained in the Danskin foothills.

Hunting and Harvest Characteristics

Total harvest in the Boise River Zone in 2019 was estimated at 946 elk based on the mandatory harvest report. This represents a slight increase in harvest (<1%) compared to 2018 (944) and was 1% below the three-year average of 954. Total hunter numbers were estimated at 5,009 in 2019 a decrease of 8% compared to the 5,464 hunters in 2018. On average, 33% of the bulls harvested in this GMUs over the past 3 years (2017–2019) have been 6-point or larger with an 18% hunter success rate.

Disease Monitoring

No disease monitoring occurred in the zone during the reporting period. Collecting Obex samples to test for Chronic Wasting Disease (CWD) has periodically occurred at harvest check stations. Chronic Wasting Disease has not been found in Idaho.

Management Discussion

The Boise River Zone contains both winter and summer range for this elk herd. Current sightability surveys provide excellent information on the status of the entire herd. Due to urban sprawl and housing development demands in the foothills near Boise, better information and mapping of winter ranges and migration corridors are needed to help mitigate and address this issue. Noxious weed inventory and mapping on winter and summer ranges are also needed to combat weed invasion and subsequent loss of critical wildlife habitat.

Elk Zone

Boise River (GMU 39)

3-Year Averages (2017-2019)

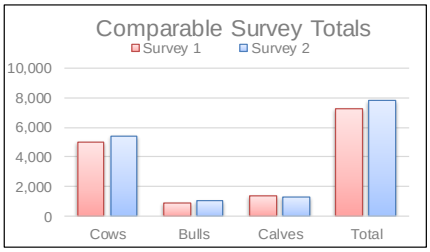
Hunters	5,288	Antlered	533
Hunter Days	26,176	Antlerless	422
Success	18%	% ≥6 Point	33%
Harvest	954		

Zone Characteristics

Square Miles	2,444
% Public Land	76%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2015	5,417	1,035	619	3,200-4,800	650-950	375-575
Bulls per 100 Cows			19	11		18-24	10-14



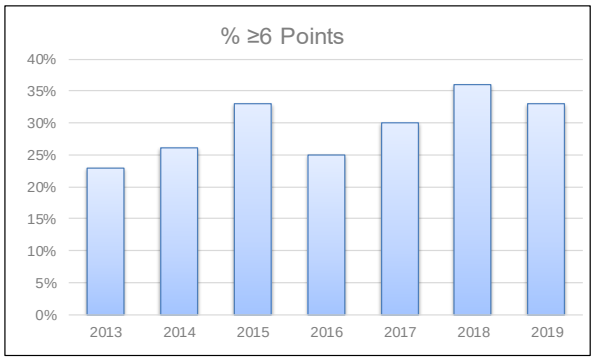
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
39	2011	4,971	916	1,388	7,275	2015	5,417	1,035	1,317	7,769
Comparable Surveys Total		4,971	916	1,388	7,275		5,417	1,035	1,317	7,769
Per 100 Cows			18	28				19	24	

Note: ND = no survey data available.

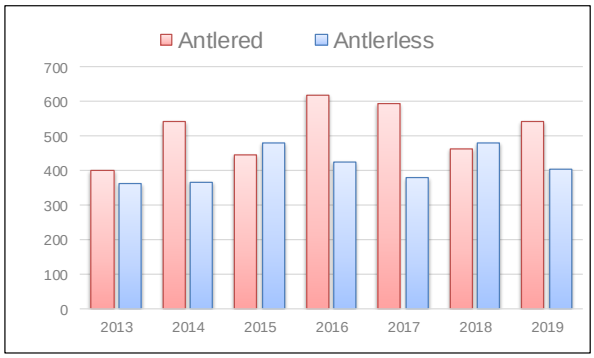
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	70%	93%	71%	84%	90%	92%
Cow Survival	-	70%	98%	95%	100%	87%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	388	248	295	292	279	299	217
Hunter Days	1,946	1,235	1,539	1,352	1,648	1,290	1,050
Antlered	11	7	6	11	14	0	1
Antlerless	3	0	0	0	11	16	0
Harvest	14	7	6	11	25	16	1
Success Rate	4%	3%	2%	4%	9%	5%	0%
% ≥6	36%	14%		5%	62%		
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,891	2,998	3,270	3,345	3,513	3,541	3,252
Hunter Days	11,509	12,581	13,027	13,542	14,380	14,723	13,543
Antlered	376	521	413	566	533	424	497
Antlerless	8	0	0	0	0	5	5
Harvest	384	521	413	566	533	429	502
Success Rate	13%	17%	13%	17%	15%	12%	15%
% ≥6	23%	27%	32%	23%	27%	34%	33%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,187	1,323	1,546	1,501	1,600	1,624	1,540
Hunter Days	7,236	7,177	9,333	9,769	10,747	11,117	10,031
Antlered	14	13	27	41	46	39	44
Antlerless	353	365	479	424	369	460	399
Harvest	367	378	506	465	415	499	443
Success Rate	31%	29%	33%	31%	26%	31%	29%
% ≥6	21%	8%	56%	50%	49%	52%	39%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	4,466	4,569	5,111	5,138	5,392	5,464	5,009
Hunter Days	20,691	20,993	23,899	24,663	26,775	27,130	24,624
Antlered	401	541	446	618	593	463	542
Antlerless	364	365	479	424	380	481	404
Harvest	765	906	925	1,042	973	944	946
Success Rate	17%	20%	18%	20%	18%	17%	19%
% ≥6	23%	26%	33%	25%	30%	36%	33%



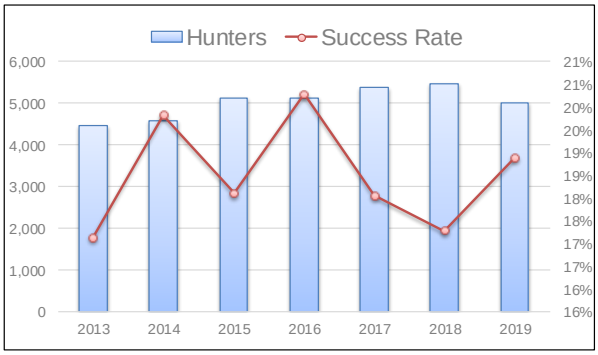


Figure 12. Boise River Zone Elk Status and Objectives.

McCall Zone (GMUs 19A, 23, 24, 25)

Historical Background

Elk were abundant in McCall Zone prior to European settlement in the late 1800s. The proliferation of mining due to the gold rush in the late 1800s and early 1900s led to widespread slaughter of these animals to supply meat and hides for mining camps. As a result, elk became increasingly rare to see, and at one time were thought to be eliminated from the area. Remnant populations relegated to the more remote rugged portions of the zone survived. Translocation of elk from Yellowstone to places in McCall Zone such as New Meadows occurred in the late 1930s. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the 1970s. The implementation of bulls-only hunting in 1976 spurred an increase in elk populations in McCall Zone.

Management Objectives

Objectives for McCall Zone (Figure 13) are to maintain a population of ≥2500 cow and ≥525 bull elk, including ≥300 adult bulls. This zone will be managed to produce statewide minimums for bull:cow ratio (18–24 bulls:100 cows) and adult bull:cow ratio (10 –14 adult bulls:100 cows). The total population objective draws a balance among concerns about depredation damage, the desire for a reasonably large elk population, and concern about habitat-carrying capacity. High road densities in some areas could affect elk vulnerability.

Habitat Management and Monitoring

Over 70% of McCall Zone is in public ownership and management. Little Salmon River and North Fork Payette River valley bottoms comprise most private ownership. Private land in this zone is predominantly agricultural or rural subdivision in nature.

Timber harvest and livestock grazing affect habitat change on public lands on the west side of McCall Zone. Wildfire or prescribed burning influence habitat alteration on lands on the east side of the zone. Several large fires have burned in this zone in the last decade. A balance exists among early, mid, and late successional habitat stages that are used by elk in summer. Winter ranges occur primarily on public ground. Federal land management agencies (USFS and BLM) have active prescribed burning programs that should maintain good winter range habitat for elk in McCall Zone. Noxious weed invasion, specifically from spotted knapweed (*Centaurea maculosa*), rush skeletonweed (*Chondrilla juncea*), and yellow starthistle (*Centaurea solstitialis*), is a threat to winter ranges in Little Salmon River, South Fork Salmon River, and mainstem Salmon River drainages. Elk/human conflicts occur during summer and fall months when elk enter agricultural fields in the valley bottoms to forage.

Road densities are estimated at less than 0.25 miles per square mile in GMUs 19A and 25. Road densities in GMUs 23 and 24 are estimated at greater than 2.5 miles per square mile. Active timber harvest programs are anticipated to increase these road densities in some areas which may affect elk security in the near future.

Biological Objectives

The McCall Zone elk population performed well from the mid-1980s to early 1990s, but calf production declined from 30+ calves:100 cows to poor (≤20 calves:100 cows) zone-wide throughout the early 2000s. The 2014 survey showed an increase in calf recruitment with a calf:cow ratio of 30:100. Bull:cow ratios are 29:100, above statewide minimum goals. Survey results in 2014 show this elk population is at the upper end of management objectives for cows (3,652), above the upper objective for overall bull numbers (1,071), and adult bulls (689).

Capture, Radio-mark, and or Telemetry

No capture, radio-marking, or telemetry occurred in the McCall Zone during the reporting period.

Population Surveys and Monitoring

No population surveys or monitoring occurred in the McCall Zone during the reporting period.

Inter-specific Issues

Elk must compete zone-wide primarily with mule deer and to a lesser extent with white-tailed deer. Extensive domestic sheep and cattle grazing occur on elk range in the western part of the zone. A population of bighorn sheep occupy a portion of rugged country less favored by elk in the northeast portion of the zone. The competitive effect of these species on one another is largely unknown.

Predation Issues

Wolves, black bears, and mountain lions are prevalent in McCall Zone. Bears are at a moderate but stable level, and mountain lions were thought to be at the highest number in recent history; however, anecdotal information indicates this species may be declining. There is little information as to the extent these species prey on elk in this zone. Wolves, introduced in Idaho's backcountry in 1995, are now well established in this zone and occur at medium to high densities.

Winter Feeding and Depredation

The remote location of most winter range in this zone precludes large-scale winter-feeding. In severe winters, some feeding has occurred in GMU 24. The Goldfork bait site was established in 1985 to bait elk out of winter livestock feeding operations. The IDFG no longer has any involvement in this operation.

Hunting and Harvest Characteristics

Total harvest in the McCall Zone in 2019 was estimated at 765 elk based on the mandatory harvest report. This represents a 19% decrease in harvest from 2018 (946) and is below the previous three-year average of 992. Total hunter numbers were estimated at 5,756 for 2019 compared to 6,053 hunters for 2018. An average of 40% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with an average of 14% hunter success rate.

Disease Monitoring

No disease monitoring has occurred in the McCall Zone during the reporting period.

Management Discussion

Carrying capacity of winter ranges is unknown. This information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest. Impacts of potential predators on elk production are largely unknown. Information is lacking on the migration routes and patterns of elk in this zone.

Elk Zone

McCall (GMU 19A, 23, 24, 25)

3-Year Averages (2017-2019)

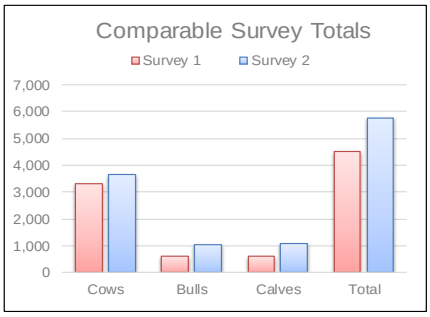
Hunters	6,148	Antlered	620
Hunter Days	45,153	Antlerless	271
Success	14%	% ≥6 Point	40%
Harvest	891		

Zone Characteristics

Square Miles	2,984
% Public Land	82%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2014	3,635	1,052	689	2,500-3,700	525-800	300-450
Bulls per 100 Cows			29	19		18-24	10-14



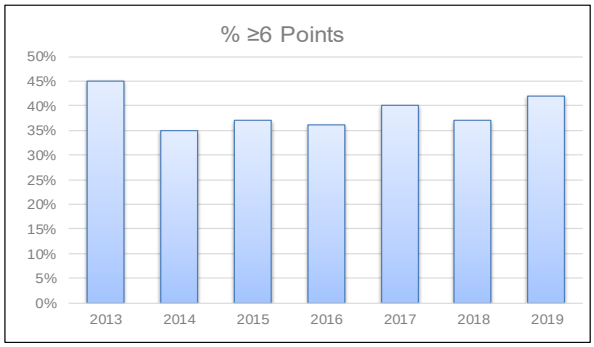
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
19A	2010	973	211	144	1,328	2014	1,180	277	252	1,709
23	2010	1,937	282	388	2,607	2014	2,027	511	702	3,240
24	ND				0	ND				0
25	2010	382	123	74	579	2014	428	264	124	816
Comparable Surveys Total		3,292	616	606	4,514		3,635	1,052	1,078	5,765
Per 100 Cows			19	18				29	30	

Note: ND = no survey data available.

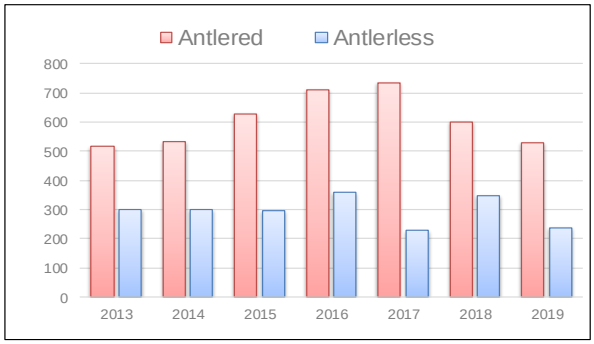
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	100%	92%	83%	100%	100%	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,959	1,859	2,526	2,652	3,050	2,804	2,635
Hunter Days	18,317	17,361	21,317	23,037	25,324	24,925	24,502
Antlered	198	213	231	224	346	314	222
Antlerless	139	155	191	210	62	203	127
Harvest	337	368	422	434	408	517	349
Success Rate	17%	20%	17%	16%	13%	18%	13%
% ≥6	37%	37%	53%	55%	42%	44%	44%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,595	2,101	3,083	3,245	3,114	2,762	2,654
Hunter Days	15,992	12,617	19,026	19,147	17,502	17,073	17,227
Antlered	312	318	390	476	381	276	299
Antlerless	5	0	0	5	0	0	0
Harvest	317	318	390	481	381	276	299
Success Rate	12%	15%	13%	15%	12%	10%	11%
% ≥6	30%	33%	27%	27%	36%	27%	40%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	474	492	445	478	470	487	467
Hunter Days	2,861	3,115	2,712	2,867	2,650	3,278	2,977
Antlered	6	3	6	10	7	9	7
Antlerless	156	147	104	144	167	144	110
Harvest	162	150	110	154	174	153	117
Success Rate	34%	30%	25%	32%	37%	31%	25%
% ≥6	67%	100%	100%	50%	100%	60%	67%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	5,028	4,452	6,054	6,375	6,634	6,053	5,756
Hunter Days	37,170	33,093	43,055	45,051	45,476	45,276	44,706
Antlered	516	534	627	710	734	599	528
Antlerless	300	302	295	359	229	347	237
Harvest	816	836	922	1,069	963	946	765
Success Rate	16%	19%	15%	17%	15%	16%	13%
% ≥6	45%	35%	37%	36%	40%	37%	42%



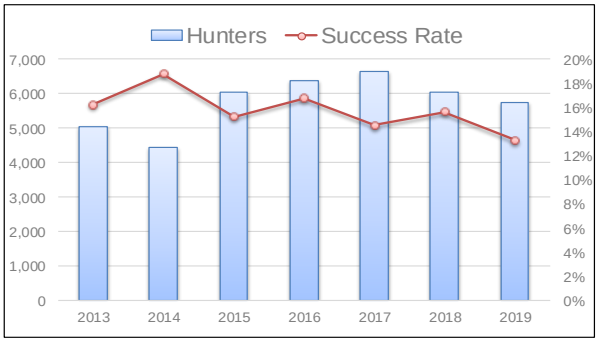


Figure 13. McCall Zone Elk Status and Objectives.

Middle Fork Zone (GMUs 20A, 26, 27)

Historical Background

Elk were in low abundance in Middle Fork Zone through the early part of the twentieth century. As has occurred over much of the west, elk herds expanded dramatically since the mid-1970s. Populations peaked in the mid-1990s at around 9,500 elk and have declined to their lowest number of 4,229 elk in 2011. Today, the Middle Fork Zone winters about 4,900 elk. Approximately 4,000 people were hunting elk in Middle Fork Zone through 1997. Caps on hunter numbers have reduced participation to <3,000 hunters since 1998. Hunter numbers have steadily increased since a low of 757 in 2012 to 1,494 participating in 2019. Seasons traditionally have been general hunts from mid-September to mid-late November for any bull in GMUs 20A and 26, and brow-tined bulls in GMU 27. Much of the hunting pressure and harvest, particularly for mature bulls, has come during September. Bull harvest has doubled since 2012, and the percent of 6 point or better bulls in the harvest has averaged 42% during that timeframe.

Management Objectives

Objectives for Middle Fork Zone (Figure 14) are to stabilize and increase the elk population to meet the minimum objectives of 3,850 cows and 690 (390 adult) bulls. In 2017, total bull objectives were met, but the population is still below cow objectives (3,395 cows in 2017 survey). Total bull ratios have improved and are currently at 24:100 (bulls:cows). Herds will be managed to maintain the bull:cow ratios to 18 –24 bulls:100 cows, which translates to 10 –14 adult bulls:100 cows.

Habitat Management and Monitoring

Habitat ultimately determines elk densities and productivity. Over past decades, fire suppression contributed to conifer encroachment on forage-producing areas. Large wildfires in the early 2000s have partially reversed this trend and enhanced elk habitat in high-elevation summer range. Present management policies that allow fire a larger role in wilderness ecosystems will benefit elk habitat and elk over the long run. This benefit of fire is only in the absence of noxious weeds and invasive annual grasses. The spread of noxious weeds and invasive annual grasses, such as knapweed, rush skeletonweed, and cheatgrass are likely having significant negative impacts on winter and summer range productivity in the Middle Fork Zone.

Biological Objectives

Elk populations have performed poorly over the past 10–15 years. Elk numbers in the Middle Fork zone have decreased by 55% between the high in 1995 and 2011. The population estimate from the 2011 elk sightability helicopter surveys was 4,229. Calf:cow ratios were poor at 13 calves:100 cows and bull:cow ratios were less than desirable at 14 bulls:100 cows. A sightability survey in 2017 gave an estimate of 4,860 elk suggesting that populations may be starting to stabilize. Estimates included 3,395 cows, 660 calves, and 805 bulls (530 adult bulls). Both calf:cow and bull:cow ratios have increased to 19 calves:100 cows and 24 bulls:100 cows.

Capture, Radio-mark, and or Telemetry

No capture, radio-marking, or telemetry occurred in the Middle Fork Zone during the reporting period.

Population Surveys and Monitoring

No population surveys or monitoring occurred in the Middle Fork Zone during the reporting period.

Inter-specific Issues

Past elk densities may have negatively impacted habitat capacity for deer but at current densities this is likely not an issue. Elk could also have an impact in some of the less rugged grassland areas used by bighorn sheep and mountain goats. Domestic livestock grazing is minimal in this zone.

Predation Issues

Black bear densities appear to be low to moderate. Mountain lion densities are at least moderate, perhaps high. Wolves reintroduced by USFWS in 1995 are well established in these GMUs. The addition of wolves has likely impacted bear, mountain lion, and coyote populations. Excessive levels of predation on elk can suppress prey populations to undesirable low levels. At this point, the population is considered limited by predation but the exact impact is not fully understood.

Winter Feeding and Depredation

Winter feeding has not occurred in these remote big game GMUs.

Hunting and Harvest Characteristics

Total harvest in the Middle Fork Zone in 2019 was estimated at 247 elk based on the mandatory harvest report. This represents a 12% decrease in harvest from 2018 (280) and represents a decline from the overall trend in increasing harvest since 2011. Total hunter numbers were estimated at 1,494 for 2019 compared to 1,416 hunters for 2018. An average of 42% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with an average harvest success rate of 20% during that time.

Disease Monitoring

No disease monitoring occurred in the Middle Fork Zone during the reporting period.

Management Discussion

Lower elk numbers in the Middle Fork may be contributing to the increase in mule deer herds (17% increase in deer population since 2011). The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest. This population is considered to be limited by predation. However, the exact impacts of predation on elk populations in the Middle Fork Zone are not fully understood. Migratory patterns are largely unknown, making it difficult to develop effect habitat enhancement projects or evaluate the influence of wildfire on population performance.

Elk Zone

Middle Fork (GMU 20A, 26, 27)

3-Year Averages (2017-2019)

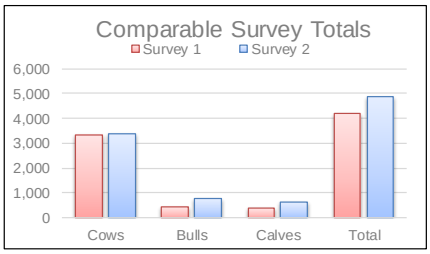
Hunters	1,433	Antlered	286
Hunter Days	8,723	Antlerless	4
Success	20%	% ≥6 Point	42%
Harvest	290		

Zone Characteristics

Square Miles	2,885
% Public Land	100%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2017	3,395	805	530	3,850-5,750	690-1,030	390-810
Bulls per 100 Cows			24	16		18-24	10-14

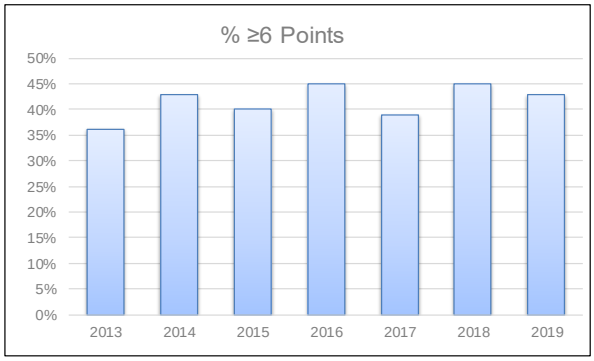


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	2011	3,341	462	420	4,223	2017	3,395	805	660	4,860
Comparable Surveys Total		3,341	462	420	4,223		3,395	805	660	4,860
Per 100 Cows			14	13				24	19	

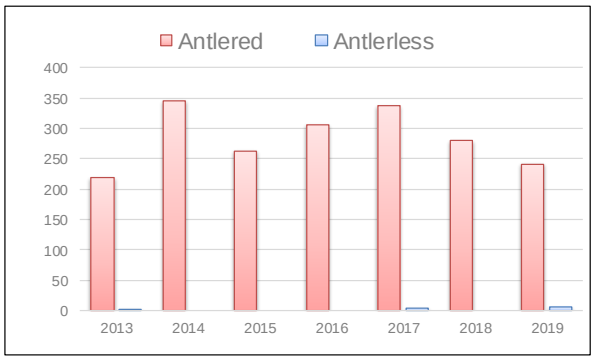
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	61%	-	-	-	-
Cow Survival	-	-	88%	92%	100%	-	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	204	491	319	340	421	399	425
Hunter Days	1,218	2,773	1,781	1,830	2,548	2,573	2,685
Antlered	64	71	70	103	108	56	80
Antlerless	1	0	0	0	0	0	2
Harvest	65	71	70	103	108	56	82
Success Rate	32%	14%	22%	30%	26%	14%	19%
% ≥6	42%	37%	33%	46%	46%	41%	38%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	636	1,040	746	922	962	1,015	1,069
Hunter Days	3,883	6,139	4,318	5,892	5,404	6,260	6,661
Antlered	156	274	192	203	230	224	161
Antlerless	0	0	0	0	0	0	4
Harvest	156	274	192	203	230	224	165
Success Rate	25%	26%	26%	22%	24%	22%	15%
% ≥6	33%	45%	42%	45%	36%	45%	45%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2	0	0	0	5	2	0
Hunter Days	5				19	18	
Antlered	0						
Antlerless	2				5		
Harvest	2	0	0	0	5	0	0
Success Rate	100%				100%	0%	
% ≥6							
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	842	1,531	1,065	1,262	1,388	1,416	1,494
Hunter Days	5,106	8,912	6,099	7,722	7,971	8,851	9,346
Antlered	220	345	262	306	338	280	241
Antlerless	3	0	0	0	5	0	6
Harvest	223	345	262	306	343	280	247
Success Rate	26%	23%	25%	24%	25%	20%	17%
% ≥6	36%	43%	40%	45%	39%	45%	43%



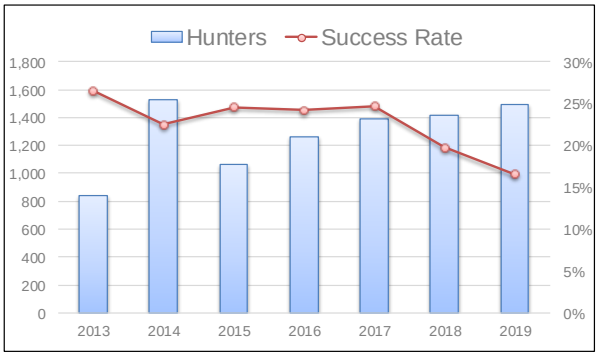


Figure 14. Middle Fork Zone Elk Status and Objectives.

Weiser River Zone (GMUs 22, 32, 32A)

Historical Background

Elk were present in Weiser River Zone prior to European settlement in the mid-1800s. Native Americans hunted elk for food in Weiser River drainage. Proliferation of mining due to the gold rush in the late 1800s and early 1900s probably led to year-round hunting of these animals to supply meat and hides for mining camps. Subsequent intensive livestock grazing degraded habitat in the zone. Translocation of elk from Yellowstone to places in McCall Zone on the periphery of Weiser River Zone occurred in the late 1930s to bolster dwindling elk populations. Regulated livestock grazing began during the same era. Transient elk from these populations probably repopulated Weiser River Zone. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the 1970s. GMU 22 became a controlled either-sex hunt in 1971 and reopened to general bulls-only hunting in 1977. The implementation of bulls-only hunting stimulated an increase in elk populations in Weiser River Zone.

The elk population in the agricultural area of the west half of GMU 32 consisted of transient elk prior to 1980. Following several hard winters, elk herds started moving into this area. Most elk were there in winter, and a few groups of elk became year-round residents. The population of elk in Weiser River Zone reached its sociological tolerance level in the early 1990s. Populations remained relatively stable (between 4,000–5,500 elk) through the mid-2000s but began increasing shortly thereafter and had grown to an estimated 10,471 by the 2013 survey.

Management Objectives

The goal for Weiser River Zone (Figure 15) is to reduce cow elk population levels to 3,300+ elk while maintaining $\geq$670 bulls and $\geq$ 325 adult bulls. Most antlerless elk reduction will occur in GMUs 22 and 32. The total population objective draws a balance between the concern about depredation damage and the need to sustain a reasonably large elk population. In 2013, controlled hunt cow tags were increased in attempt to push elk populations back toward objectives. Antlerless harvest increased but was not sufficient to curb population growth or private land depredations. Therefore, in 2017, general cow hunting was added to the Weiser River Zone A and B tags to increase harvest and put more pressure on depredating elk. The 2019 survey estimates show that the population has decreased slightly (though still above objectives) which indicates a response to the increased hunting pressure. Accordingly, the general cow season opportunity was partially curtailed in order to slow the decline. As herds are reduced and population levels are stabilized, liberal cow seasons will again be reevaluated. This zone will be managed to produce statewide minimums for bull:cow ratio (18–24 bulls:100 cows) and adult bull:cow ratio (10–14 adult bulls:100 cows).

Habitat Management and Monitoring

About 60% of GMUs 22 and 32A and 20% of GMU 32 is in public ownership and management. The western portion of GMU 32 and the Weiser River valley of GMUs 22 and 32A are predominately private land. Agricultural products are primarily dry-land grazing, grain production, and hay fields.

Timber harvest, livestock grazing, and prescribed fires are the most significant land uses affecting habitat change in this zone. Most forested habitat is in the early to mid-successional

stage. Winter ranges occur primarily on public ground in GMU 22, but mostly on private ground in GMUs 32 and 32A. Noxious weed invasion, such as yellow starthistle and whitetop (*Cardaria draba*), is a threat to winter range habitat. Andrus WMA in the southwest portion of GMU 22 is managed for elk and mule deer winter range and encompasses about 8,000 acres. Extensive road building from past timber harvest and mining activities contribute to high vulnerability of elk during hunting seasons in this zone. The inherent lack of security cover and openings created from timber harvest compound elk vulnerability. Active timber harvest programs are anticipated to increase these road densities in localized areas in the near future.

Elk/human conflicts occur during summer, fall, and winter months in GMUs 22 and 32A when elk enter agricultural fields in valley bottoms to forage. Resident elk in GMU 32 have caused landowners concern about damage to fences, fall-plowed fields, row crops, and alfalfa hay fields.

Biological Objectives

In the 2019 survey, cow numbers were >400 over the upper management objective (5,409), bulls were >200 over objectives (1,234), and adult bulls were considerably above objectives (598). Through the 1980s and 1990s, the Weiser River Zone was a highly productive elk population. Calf production averaged well over 40 calves:100 cows. Burgeoning elk populations and dry summers have probably contributed to the more recent decline to fair productivity of 25 calves:100 cows observed in the 2013 survey. However, 2019 survey results estimate an increase in that ratio to 34 calves:100 cows and bull:cow ratios at the upper end of objectives at 23 bulls:100 cows.

Capture, Radio-mark, and or Telemetry

Three adult cow elk were captured and radio-marked in the Weiser River Zone in March, 2020. These were collared in conjunction with an ongoing research project in the area. This research began in early 2018 and is focused on depredation prevention techniques.

Population Surveys and Monitoring

An aerial sightability survey was performed in the Weiser River Zone January 14 – Febuary 12, 2019. The total population estimate for the zone was 8,505 elk (5,409 cows, 1,234 bulls, 1,862 calves).

At the beginning of the reporting period, there were a total of 30 (28 GPS, 2 VHF) radio-collared cow elk on the air. Elk were monitored monthly throughout the reporting period. Six mortalities occurred during this time, primarily from harvest. The 3 adult, cow elk that were collared in March, 2020, were added to the monitoring list and tracked monthly.

Inter-specific Issues

Elk compete zone-wide with mule deer for habitat. Intensive domestic sheep and cattle grazing occur over most of the zone. The competitive effect of these species on one another is largely unknown.

Predation Issues

Black bear and mountain lions occur in moderate to high numbers in Weiser River Zone. There is no indication that predation is having an impact on elk calf recruitment or survival of elk in this zone. Wolves have colonized the zone but are not a significant mortality factor at this time. Coyotes are common, but are not known to have much effect on elk populations.

Winter Feeding and Depredation

Winter feeding takes place on an irregular basis in Weiser River Zone. Most elk feeding operations have been initiated to bait elk away from livestock feeding operations. Winter feeding occurred during the winter of 2016–2017 to address increased depredations brought on by an abnormally high snow year.

Hunting and Harvest Characteristics

Total harvest in the Weiser River Zone in 2019 was estimated at 1,496 elk based on the mandatory harvest report. This represents a 16% decrease in harvest from 2018 (1,783) and is below the previous three-year average of 1,709. Total hunter numbers were estimated at 7,437 for 2019 compared to 8,502 hunters for 2018. An average of 30% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 23% overall hunter success rate.

Disease Monitoring

No disease monitoring occurred in the Weiser River Zone during the reporting period.

Management Discussion

Carrying capacity of winter ranges is unknown. This information is needed to identify appropriate elk densities, which will maintain optimum productivity and harvest. Knowledge of inter-specific competition is needed. Information is lacking on migration routes and patterns of elk in this zone and interaction with elk in the adjacent Brownlee Zone. Consequently, research was initiated during the winter of 2016–2017 to address questions of elk movements, habitat use, and vulnerability to harvest in the southwest portion of the Brownlee and Weiser River Zones. Elk in this zone remain above objectives and elk depredations on private lands continue to increase. In 2018, IDFG, in collaboration with the University of Idaho, began a project to develop management tools designed to modify elk behavior resulting in increased social carrying capacity in areas with a high proportion of private agriculture.

Elk Zone

Weiser River (GMU 31)

3-Year Averages (2017-2019)

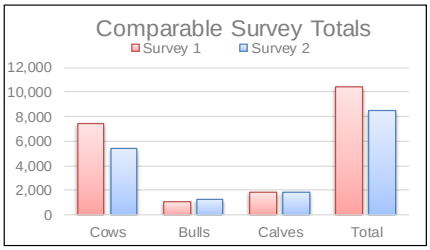
Hunters	7,452	Antlered	748
Hunter Days	46,777	Antlerless	961
Success	23%	% ≥6 Point	30%
Harvest	1,709		

Zone Characteristics

Square Miles	2,895
% Public Land	51%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2019	5,409	1,234	598	3,300-5,000	670-1,000	325-500
Bulls per 100 Cows			23	11		18-24	10-14

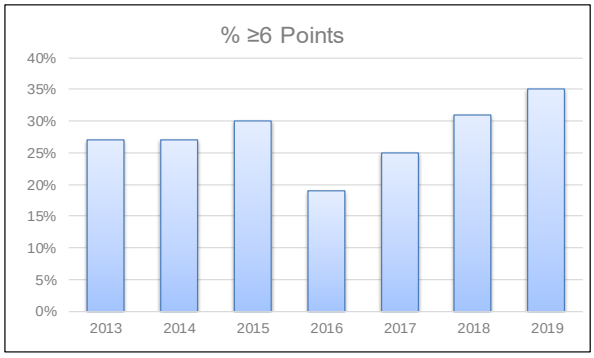


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	2013	7,461	1,116	1,894	10,471	2019	5,409	1,234	1,862	8,505
Comparable Surveys Total		7,461	1,116	1,894	10,471		5,409	1,234	1,862	8,505
Per 100 Cows			15	25				23	34	

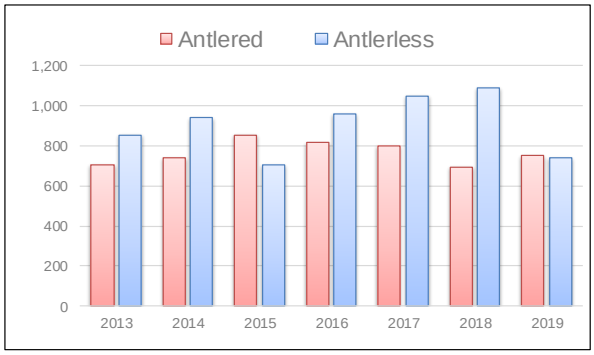
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	75%	100%	95%	100%	100%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,772	1,518	1,560	1,404	1,725	3,946	2,991
Hunter Days	13,252	11,726	12,155	11,628	14,202	28,818	22,471
Antlered	167	162	210	229	151	198	185
Antlerless	161	202	102	105	283	482	282
Harvest	328	364	312	334	434	680	467
Success Rate	19%	24%	20%	24%	25%	17%	16%
% ≥6	21%	35%	25%	23%	30%	27%	34%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,937	2,569	3,179	2,998	3,456	3,303	3,395
Hunter Days	14,204	11,606	15,059	13,744	17,708	18,398	18,517
Antlered	539	575	641	589	645	495	569
Antlerless	1	4	0	2	269	141	145
Harvest	540	579	641	591	914	636	714
Success Rate	18%	23%	20%	20%	26%	19%	21%
% ≥6	30%	25%	25%	18%	24%	33%	36%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,718	2,586	2,752	2,932	1,236	1,253	1,051
Hunter Days	15,221	14,296	14,339	16,969	6,815	7,659	5,742
Antlered	1	3	0	0	1	1	0
Antlerless	689	735	606	852	498	468	315
Harvest	690	738	606	852	499	469	315
Success Rate	25%	29%	22%	29%	40%	37%	30%
% ≥6					100%		
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	7,427	6,673	7,491	7,334	6,417	8,502	7,437
Hunter Days	42,677	37,628	41,553	42,341	38,725	54,875	46,730
Antlered	707	740	851	818	797	694	754
Antlerless	851	941	708	959	1,050	1,091	742
Harvest	1,558	1,681	1,559	1,777	1,847	1,785	1,496
Success Rate	21%	25%	21%	24%	29%	21%	20%
% ≥6	27%	27%	30%	19%	25%	31%	35%



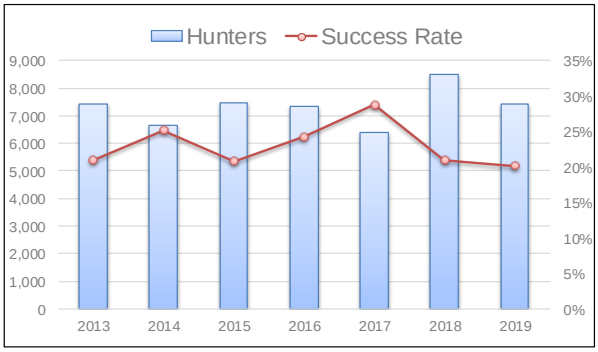


Figure 15. Weiser River Zone Elk Status and Objectives.

Brownlee Zone (GMU 31)

Historical Background

Elk were present in Brownlee Zone prior to European settlement in the mid-1800s. Native American tribes hunted elk for food in Weiser River drainage. As in other areas in Idaho, proliferation of mining due to the gold rush in the late 1800s and early 1900s probably led to year-round hunting of these animals to supply meat and hides for mining camps. Subsequent heavy livestock grazing degraded habitat in the zone. Translocation of elk from Yellowstone to places in Weiser River and McCall zones occurred in the late 1930s to bolster declining elk populations. Regulated livestock grazing occurred during the same era. Transient elk from these populations probably repopulated the Brownlee Zone. Liberal either-sex hunting seasons kept population numbers of elk suppressed well into the late 1960s. GMU 31 was closed to elk hunting in 1968. The GMU reopened to controlled hunts in 1976. Protected by conservative bull-only tags, this elk population expanded rapidly in the late 1980s. This population reached its sociological tolerance level in the early 1990s. Intense controlled antlerless hunting and animal displacement reduced the population below objectives by the early 2000s. Since that time, populations have increased and numbers exceed upper management objectives for both bulls and cows.

Management Objectives

Objectives for Brownlee Zone (Figure 16) are to maintain a population of ≥550 cow and ≥150 bull elk, including ≥75 adult bulls. This zone will be managed as a quality hunt opportunity with a bull:cow ratio 25-29 bulls:100 cows. The total population objective draws a balance between concerns about depredation damage and providing quality elk hunting opportunities.

Habitat Management and Monitoring

About 50% of Brownlee Zone is in public ownership and management. The southern and eastern portions of the GMU are predominantly private land. Agricultural products are primarily dry-land grazing and hay fields. Higher elevations are timbered; lower elevations are primarily shrub-steppe or desert.

Timber harvest, livestock grazing, and prescribed fires all affect habitat change in this zone. Winter ranges occur primarily on public ground. Noxious weed invasion, such as yellow starthistle and whitetop, is a threat to winter range habitat. Andrus WMA is managed for elk and mule deer winter range and comprises about 8,000 acres in the northwest part of the zone. Elk/human conflicts occur during summer, fall, and winter months when elk enter agricultural fields in valley bottoms to forage.

Extensive road building from past timber harvest and mining activities contribute to high vulnerability of elk during hunting seasons in this zone. The inherent lack of security cover and openings created from timber harvest compound elk vulnerability.

Biological Objectives

2019 survey results show a total population estimate of 1,874 elk in the Brownlee Zone. Cow elk estimates exceed the upper end of management objectives at 942, while bulls and adult bulls are well above management objectives at 599 and 466 respectively. Elk have not reached their

habitat potential in this zone but have reached a threshold of tolerance among user groups concerned about private land depredations.

Capture, Radio-mark, and or Telemetry

Four elk were captured and radio-marked in the Brownlee Zone during the reporting period.

Population Surveys and Monitoring

An aerial sightability survey was conducted during late January 14 – Febuary 12, 2019, in the Brownlee Elk Zone. Survey results estimate 1,874 elk (942 cows, 599 bulls, and 334 calves) elk in the zone.

Ten radio-collared cow elk were monitored monthly during this reporting period. There were 6 mortalities during this time. Four additional cow elk were captured in March of 2020 and monitored monthly through June, 2020. Monitoring is part a larger, ongoing project that began in 2018 and is focused on depredation prevention techniques.

Inter-specific Issues

Elk compete zone-wide with mule deer for habitat. Most of the zone is also managed for intensive domestic sheep and cattle grazing. The competitive effect of these species on one another is largely unknown.

Predation Issues

Black bear and mountain lions occur in low to moderate numbers in Brownlee Zone. There is no evidence these species have an effect on the elk population in this zone. Wolves occur intermittently in this zone and are not a significant mortality factor at this time. Coyotes are common but are not known to effect elk populations.

Winter Feeding and Depredation

Winter feeding in the Brownlee Zone is an extremely rare event. Winter feeding occurred during the winter of 2016 –2017 to address increased depredations brought on by an abnormally high snow year. Previously, winter feeding occurred on a limited basis in close proximity to domestic livestock feeding operations during the severe winter of 1992–1993.

Hunting and Harvest Characteristics

Total harvest in the Brownlee Zone in 2019 was estimated at 354 elk based on the mandatory harvest report. This represents a 29% increase in harvest from 2018 (275) and is above the three-year average of 297. Total hunter numbers were estimated at 1,146 for 2019 compared to 922 hunters for 2018. An average of 56% of the bulls harvested in these GMUs over the past 3 years (2017–2019 have been 6-point or larger with a 29% hunter success rate overall.

Disease Monitoring

No disease monitoring has occurred in the Brownlee Zone during the reporting period.

Management Discussion

Carrying capacity of winter ranges is unknown. This information is needed to identify appropriate elk densities, which will assist with maintenance of optimum productivity and harvest. Information is lacking on migration routes and patterns of elk in this zone and interaction with elk in the adjacent Weiser River Zone. Knowledge of inter-specific competition is needed. Research was initiated during the winter of 2016–2017 to address questions of elk movements, habitat use, and vulnerability to harvest in the southwest portion of the Brownlee and Weiser River Zones. In 2018, IDFG, in collaboration with the University of Idaho, began a project to develop management tools designed to modify elk behavior resulting in increased social carrying capacity in areas with a high proportion of private agriculture.

Elk Zone

Brownlee (GMU 31)

3-Year Averages (2017-2019)

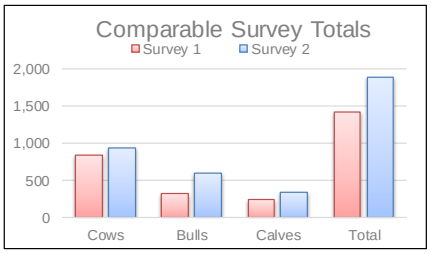
Hunters	1,030	Antlered	160
Hunter Days	6,943	Antlerless	136
Success	29%	% ≥6 Point	56%
Harvest	297		

Zone Characteristics

Square Miles	598
% Public Land	50%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2019	942	599	466	550-850	150-200	75-125
Bulls per 100 Cows			64	49		18-24	10-14

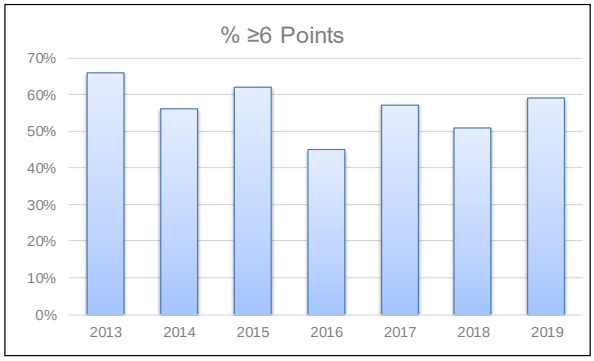


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	2013	841	333	249	1,423	2019	942	599	334	1,875
Comparable Surveys Total		841	333	249	1,423		942	599	334	1,875
Per 100 Cows			40	30				64	35	

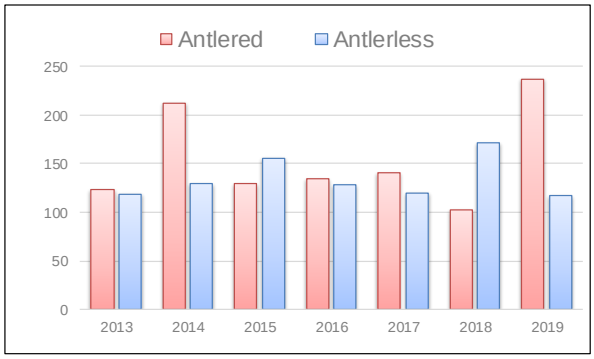
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	100%	100%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	413	751	512	514	618	492	532
Hunter Days	3,043	5,929	4,437	3,919	4,812	4,104	4,163
Antlered	91	172	88	99	85	64	102
Antlerless	18	8	5	0	17	35	8
Harvest	109	180	93	99	102	99	110
Success Rate	26%	24%	18%	19%	17%	20%	21%
% ≥6	58%	49%	51%	40%	50%	34%	50%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	382	398	438	451	405	430	614
Hunter Days	1,968	2,306	2,120	2,345	2,243	2,241	3,265
Antlered	33	40	42	35	56	39	135
Antlerless	101	122	150	128	103	137	109
Harvest	134	162	192	163	159	176	244
Success Rate	35%	41%	44%	36%	39%	41%	40%
% ≥6	91%	88%	86%	59%	67%	79%	66%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	795	1,149	950	965	1,023	922	1,146
Hunter Days	5,011	8,235	6,557	6,264	7,055	6,345	7,428
Antlered	124	212	130	134	141	103	237
Antlerless	119	130	155	128	120	172	117
Harvest	243	342	285	262	261	275	354
Success Rate	31%	30%	30%	27%	26%	30%	31%
% ≥6	66%	56%	62%	45%	57%	51%	59%



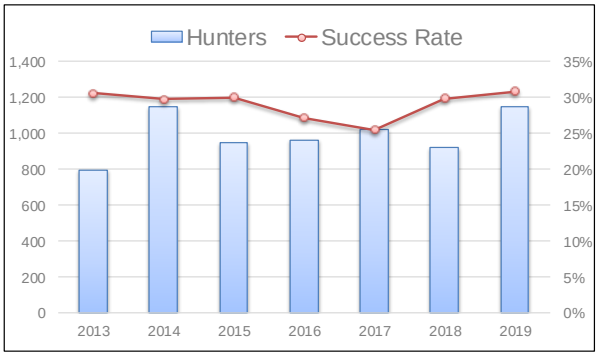


Figure 16. Brownlee Zone Elk Status and Objectives.

Pioneer Zone (GMUs 36A, 49, 50)

Historical Background

Elk abundance was low in Pioneer Zone through much of the twentieth century. These GMUs have been managed for decades under conservative controlled hunt strategies. As has occurred over much of the west, elk herds expanded dramatically since the mid-1970s. Today, the Pioneer Zone winters approximately 11,500 elk, up from an estimated 9,700 in 2013.

Following adoption of the dual-tag zone system in 1998 between 3,500 and 4,000 people have typically hunted in Pioneer Zone each year. However, hunting opportunity was reduced in 2009, following helicopter surveys that indicated declining bull numbers and bull:cow ratios that were below objectives. In 2009, hunter numbers declined, and approximately 1,800–2,000 people hunted the Pioneer Zone annually between 2009 and 2012. This number increased dramatically in 2013 to 3,300 hunters and increased to over 5,100 in 2017. Harvest has followed suit and has generally increased over the last 6–8 years. The controlled bull hunts in this zone have become very desirable; any-weapon permits are in high demand and difficult to draw. The area's reputation for mature bulls has also made this zone a very attractive archery hunt. The numbers of archery hunters has nearly tripled since 2010 to approximately 2,500 hunters. The percent of 6-point or larger bulls in the harvest increased 10% over the preceding 4 years.

Management Objectives

Objectives for Pioneer Zone (Figure 17) are to reduce this growing elk herd (about 3,150–5,600 cows and 1,125–1,820 bulls) to maintain herd productivity, minimize potential impacts on mule deer, and reduce private property depredations. This zone will continue to be managed to produce high bull:cow ratios (30–35 bulls:100 cows postseason) and many adult bulls (18–22 bulls ≥3 years old:100 cows).

Habitat Management and Monitoring

Cattle ranching, livestock grazing, and recreation are dominant human uses of the landscape in the Pioneer Zone. The zone is in a generally arid region where forage production can be strongly influenced by growing season precipitation. During drought years, high-elevation mesic habitats are more heavily utilized by elk while low-elevation riparian areas and wet meadows are more heavily utilized by cattle. Summer elk depredations on agricultural crops are common, especially in dry years. Years with heavy snowfall see an increase in elk depredations to stored hay and cattle feed lines.

In some areas, elk winter in mature stands of mountain mahogany. Forests are slowly encroaching into shrub and grassland communities. Spread of noxious weeds, such as knapweed and leafy spurge, could ultimately have significant effects on winter range productivity.

Recent housing developments in the Big Wood River drainage in GMU 49 have severely reduced winter elk habitat. Continued development on remaining winter ranges will reduce elk carrying capacity in the GMU. Changes in land ownership in GMU 50 are making it difficult to manage depredation problems.

Biological Objectives

Elk numbers in the Pioneer Zone have increased since the mid-1970s and have continued to increase during the past decade. Recruitment measured through sightability surveys indicate most populations are reproducing at moderate to high levels (30–40 calves:100 cows). An aerial survey conducted in the Pioneer Zone during January 2008 indicated a ratio of 33 calves:100 cows based on observations of 1,139 calves and 3,448 cows. Bull:cow ratios were lower than in previous surveys at 25 bulls:100 cows (n = 845 bulls). Because of this, the spike hunt portion of the general A Tag elk hunt was eliminated throughout the zone in 2009. As a result, hunter numbers in the general hunt dropped from around 1,400 to around 900 in 2009.

The aerial survey conducted in the Pioneer Zone in 2013 indicated an increase in both the calf:cow ratio and bull:cow ratio, 39:100 and 37:100, respectively, with an estimate of 9,700 elk. The aerial survey conducted in the Pioneer Zone in 2017 estimated 11,500 elk, with calf:cow ratios and bull:cow ratios of 36:100 and 38:100, respectively.

Despite the continued absence of a spike hunt component to the general A tag, hunter numbers in the general hunt increased from about 900 hunters in 2009 to 2,500 in the last few years.

In GMUs 49 and 50, depredation issues have significantly increased both in the summer and winter months. Summer depredations on growing alfalfa have increased as animals have been staying at lower elevations throughout the year. In GMU 49, Landowner Permission Required hunts have helped reduce depredations. In 2015, a greenfield hunt in GMU 50 during August and September was included as part of the Pioneer A tag. In 2017, the duration of this greenfield hunt was reduced to only allow hunting in August. Depredations in GMU 36A are limited to private land along the East Fork of the Salmon River and the northern tip of the GMU near Challis. Depredation complaints have remained relatively stable with the exception of the 2016 - 2017 winter. In response to the continued depredation issues across the zone, and with the goal of bringing the herd back to within population objectives, the Commission approved the addition of a general season, any weapon, antlerless hunt during the 2019 - 2020 season setting process. This antlerless hunt opens on November 1 and ends on December 7, 2019 - 2020.

Capture and Radio-Telemetry

As part of the IDFG's elk population monitoring program, calves and cows are captured and fitted with radio collars in selected elk zones throughout the state. The Pioneer Zone is not typically part of this group. However, during the 2017–2018 reporting period, 4 cows were collared in GMU 36A to inform biologists about elk depredation behavior. Overwinter survival was 100% for the 4 cows.

Population Surveys and Monitoring

Sightability surveys are conducted periodically by elk zone to determine herd composition and population estimate. These estimates are then compared to objectives outlined in the elk plan to determine what management direction is needed.

No sightability surveys were conducted in the Pioneer Zone during the reporting period.

Inter-specific Issues

High elk densities may be impacting wintering deer in portions of this zone. When elk numbers are high, as they are currently, livestock operators often perceive elk as competing with livestock for range forage and impacting riparian areas. However, elk generally remove a minor portion of forage compared to livestock, and tend to use different habitats and food sources relative to livestock.

Predation Issues

Black bear densities appear to be low and stable in Pioneer Zone. Mountain lion densities in the Wood River Valley (GMU 49) have increased, with 90 mountain lion sightings being reported in this area in 2019. In other areas throughout the zone, mountain lion densities are low to moderate and appear to have increased in recent years, in part as a result of increased elk and deer densities. Coyotes are common, but do not impact elk populations. Wolves reintroduced by USFWS in central Idaho in 1995 are established in the Pioneer Zone. They have not become a significant factor in elk distribution and population demographics to date. Reports by hunters and observations by IDFG personnel suggest that wolf activity may have changed behavior patterns of elk in this area. There are several established wolf packs in the zone; however, due to the chronic livestock depredations, these wolves are often targeted for control actions.

Winter Feeding and Depredation

No IDFG-sponsored feeding facilities exist in this zone; however, artificial feeding of elk by private citizens in GMU 49 has occurred frequently over the past 20 years. Education measures undertaken to reduce this activity have been successful and are on-going.

Due to the severity of the 2016–2017 winter, IDFG sanctioned 12 feed sites, and fed an estimated 1,200 elk in GMU 49. Additionally, about 500 elk were fed in 2 locations near Moore, ID in GMU 50. These feed sites were conducted to keep elk off cattle feed lines, reduce damage to stored hay, and to discourage elk from crossing or congregating near highways where they created public safety concerns. Winter snow conditions were the deepest observed in 25 years, and exceeded 36” throughout much of the zone. No winter feeding was conducted in GMU 36A.

An increased emphasis on protecting stored crops, via permanent stackyards, has been implemented in the GMUs 49 and 50 to reduce the future need to winter feed.

Hunting and Harvest Characteristics

Total harvest in the Pioneer Zone in 2019 was estimated at 1,788elk based on the mandatory harvest report. This represents a 1.5% increase in harvest from the last 3 year average of 1,723. Total hunter numbers were 5,271 for 2019 compared to the past three-year average of 5,184 hunters from 2017–2019. Stemming from several years of increasing hunter numbers, hunter congestion issues have arisen in some portions of the zone, particularly GMU 50 which generally has the highest elk population density relative to 36A and 49. An average of 56% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger. The three-year average success rate on general hunts is 23% while controlled hunt success rate is 49%.

Disease Monitoring

Because elk were fed in GMU 49 during the winters of 2016 and 2017 in an attempt to alleviate elk-livestock interactions, IDFG has implemented brucellosis surveillance program within the GMU. Currently all hunters who have a controlled antlerless or extra antlerless elk tag receive a brucellosis test kit. During the 2017 hunting season 2 elk tested sero-positive. We were unable to gather additional samples to confirm the sero-positive detections. No animals tested positive during this reporting period.

Management Discussion

Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest while reducing depredations to growing and stored crops. A better understanding of elk movements and migration patterns across GMU boundaries would help season setting to address depredations and meet management objectives.

The IDFG commissioned a research project, testing the effectiveness of deterrent treatments intended to modify elk behavior and subsequently reduce agriculture crop use. Realizing that land management alters the nutritional landscape and elk change behaviors to increase fitness benefits on this landscape, the intent of this project was to learn more about the behaviors of elk using agriculture landscapes and identify management tools that could be used to mitigate elk-agriculture conflicts. During the 2018 field season 6 elk were collared within the Pioneer Zone for this research. The results of this project will provide a better understanding of elk use in an agriculture landscape and how certain treatments may be used by wildlife managers and private landowners to address elk depredations. Data analysis and results of this project should be complete by December, 2020.

Elk Zone

Pioneer (GMU 36A, 49, 50)

3-Year Averages (2017-2019)

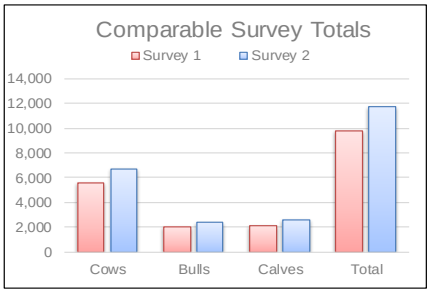
Hunters	5,184	Antlered	686
Hunter Days	32,219	Antlerless	1,102
Success	35%	% ≥6 Point	56%
Harvest	1,788		

Zone Characteristics

Square Miles	3,202
% Public Land	82%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2017	6,727	2,440	1,482	3,150-5,600	1,025-1,820	630-1,120
Bulls per 100 Cows			36	22		30-35	18-22

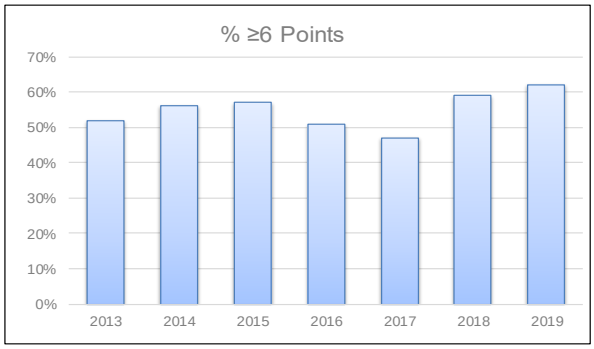


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
36A	2013	2,028	909	711	3,648	2017	3,297	977	992	5,266
49	2013	1,648	494	579	2,721	2017	1,164	532	563	2,259
50	2013	1,868	642	859	3,369	2017	2,266	931	1,019	4,216
Comparable Surveys Total		5,544	2,045	2,149	9,738		6,727	2,440	2,574	11,741
Per 100 Cows			37	39				36	38	

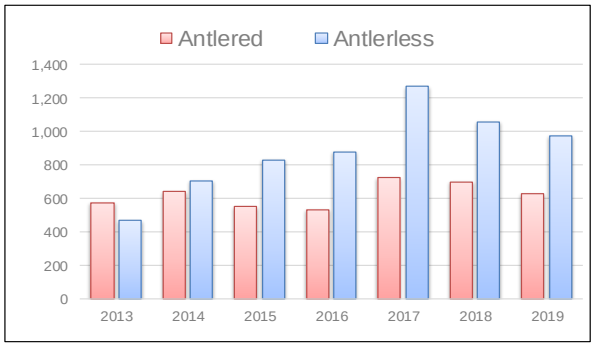
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	100%	100%	100%	100%	89%	97%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,683	2,275	1,932	2,145	2,252	2,319	2,067
Hunter Days	12,660	16,875	14,218	16,533	18,055	18,197	17,709
Antlered	234	305	283	221	293	326	256
Antlerless	141	150	295	277	132	112	121
Harvest	375	455	578	498	425	438	377
Success Rate	22%	20%	30%	23%	19%	19%	18%
% ≥6	41%	51%	52%	43%	41%	51%	56%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	2,059
Hunter Days							11,057
Antlered							10
Antlerless							690
Harvest	0	0	0	0	0	0	700
Success Rate							34%
% ≥6							53%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,357	1,508	1,619	1,766	2,906	2,804	1,145
Hunter Days	6,078	3,714	6,581	7,755	12,564	13,183	5,893
Antlered	339	335	272	309	434	374	366
Antlerless	329	554	532	604	1,140	948	162
Harvest	668	889	804	913	1,574	1,322	528
Success Rate	49%	59%	50%	52%	54%	47%	46%
% ≥6	60%	61%	63%	57%	51%	66%	66%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	3,040	3,783	3,551	3,911	5,158	5,123	5,271
Hunter Days	18,738	20,589	20,799	24,288	30,619	31,380	34,659
Antlered	573	640	555	530	727	700	632
Antlerless	470	704	827	881	1,272	1,060	973
Harvest	1,043	1,344	1,382	1,411	1,999	1,760	1,605
Success Rate	34%	36%	39%	36%	39%	34%	30%
% ≥6	52%	56%	57%	51%	47%	59%	62%



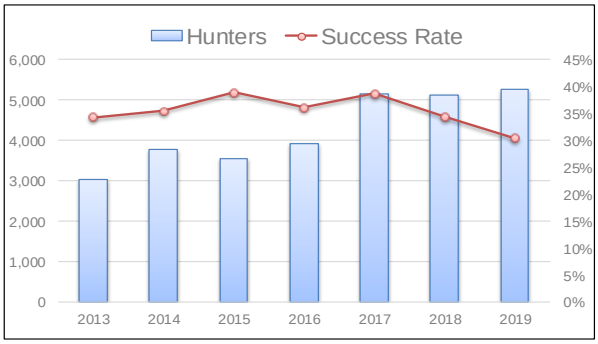


Figure 17. Pioneer Zone Elk Status and Objectives.

Smoky–Bennett Zone (GMUs 43, 44, 45, 48, 52)

Historical Background

Accounts from trappers and miners in the 1870s and 1880s indicate that elk occurred in the zone but were not as numerous as deer. Livestock grazing practices during the late 1800s and early 1900s severely damaged the Boise River and Big Wood River watersheds and reduced the area's ability to support elk. Additionally, heavy unregulated hunting by miners, market hunters, and local settlers drastically reduced big game populations during the late 1800s. By 1905, it was difficult to find camp meat. Elk were extirpated from Bennett Hills Zone by the early 1900s as a result of unregulated hunting and habitat depletion from livestock use. Elk observations were rare in the Boise River Basin and Big Wood River drainage.

In 1915, a reintroduction effort began with a release of elk from Yellowstone National Park into the Boise River drainage just above Arrowrock Dam. In 1930, the elk population in the Soldier Mountain area was estimated at 135 head. Reintroduction efforts continued in 1935 and 1936 with elk releases near Ketchum in the Big Wood River drainage. During the late 1940s, elk numbered less than 50 head in GMU 45 and less than 15 head in GMU 52. Elk populations increased steadily during the 1950s and 1960s, and controlled hunts were used to manage the harvest. In 1965, 36 elk (9 bulls, 19 cows, 9 calves) trapped in GMU 48 were released in GMU 52 about one mile south of Magic Reservoir. There were no elk seasons in GMU 45 from 1954–1963 and 1971–1978. GMU 52 was closed to all elk hunting from 1943–1978. Supplemental winter feeding of elk by IDFG and private interests has occurred in this zone since the initial releases.

By the late 1970s, the population in GMUs 45 and 52 had increased to an estimated 235 head and depredation problems occurred on wheat and alfalfa fields from approximately 120 elk that summered in the Johnson Hill area. Early controlled firearms hunts and archery seasons were implemented in 1979 to reduce depredation concerns. In 1980, the management objectives were to reduce depredations and increase the elk population to 300 head. The 1986–1990 Elk Management Plan established a goal of about 400 elk for GMUs 45 and 52 combined. Since depredation problems were minimal and the elk population relatively small, aerial surveys were not conducted in Bennett Hills Zone until 1999 to monitor the elk population.

Throughout the 2000s, elk populations continued to grow in GMUs 44, 45, 48 and 52 and depredation issues, both during the summer and winter, increased. In 2014, based on anecdotal and radio-collar information, the Smoky Mountain Zone and the Bennett Hills Zone were combined to form the Smoky–Bennett Zone to better reflect the entirety and current distribution and migration patterns of this elk population.

Management Objectives

Objectives in the Smoky-Bennett Zone (Figure 18) are to establish a population of 2,000–3,000 cows and 620–930 bulls, including 400–595 adult bulls, at ratios of 30–35 bulls:100 cows and 18–22 adult bulls:100 cows. The management objective was intended to balance depredation concerns in GMUs 44 and 45 and the desire to provide the maximum elk population the habitat can sustain. The adult bull objective was selected to maximize bull quality in controlled hunts

and provide sufficient adult bulls to sustain quality elk populations. Current bull:cow ratios are above objectives and the overall population has likely exceeded objectives.

Habitat Management and Monitoring

Primary spring, summer, and fall habitats throughout the zone are managed by the USFS, while winter ranges are a mixture of USFS, BLM, IDL, and private lands. Suitable winter ranges in GMUs 43, 44, and 48 are limited, and reintroduced elk did not learn or develop migration routes to lower-elevation sites. Because of this lack of winter range, nearly-annual supplemental feeding of elk occurred through the mid-2000s in GMU 43 to maintain populations at or near current levels.

In GMU 43, the South Fork Boise River corridor is crucial for the few elk that winter in the GMU. In GMUs 44, 45, and 52, much of the habitat elk use during the winter is on private land, and depredations are a significant concern. Most of GMU 52 and the southern portion of GMU 45 are arid semi-desert dominated by exotic annual grasses (i.e., cheatgrass and medusa head). In GMU 48, most high-quality winter habitat exists on private land in drainage bottoms near residential areas. A substantial loss of winter range to residential development has occurred in GMU 48, and continued loss of winter range is a serious concern as human populations in the area continue to grow.

Habitat productivity has likely improved on federal lands in recent years due to improved domestic livestock grazing strategies. Additionally, several large wildfires in GMUs 43 and 48 have promoted early seral habitats which are currently being used by elk. However, suppression of fire throughout much of this century has likely resulted in declining elk habitat quality. Many aspen communities are decadent or are being encroached by conifer species and would benefit from mechanical and prescribed fire treatments. In portions of GMU 43, ponderosa pine-dominated communities would benefit from prescribed fire to reduce encroachment of Douglas fir. Spotted knapweed has become established in the zone and threatens habitat productivity and diversity in several localized areas.

For many years, depredations were very limited across much of the zone with the only real problems arising near urban areas where wintering elk find exposed horse hay or ornamental shrubs. However, over the past several winters, depredation complaints and claims have increased dramatically in GMUs 44, 45, 48, and 52. The Camas Prairie, located in the northern portion of the zone is dominated by private land used for pasturing livestock and growing grass, alfalfa, and small grains. The presence of several radio-collared elk on the Camas Prairie and Bennett Hills during winter suggests that many elk have moved away from the historic feed sites along the South Fork Boise River and onto what was likely historic winter habitat in GMUs 44 and 45.

In GMU 43, high road densities from past timber harvest activities have increased elk vulnerability during hunting seasons (Appendix A). Seasonal road closures have been instituted by the USFS to increase security habitat for elk and mitigate for high road densities. Cross-country motorized travel on winter range in the Bennett Hills is of high concern. The 2011 Blair fire burned nearly 400,000 acres of the Bennett Hills winter range. This fire removed the sagebrush canopy and afforded an opportunity for off-road vehicles to drive cross-country

throughout most of the area. The observed increase in off-road motorized traffic has been implicated in the displacement of elk onto private land, resulting in widespread depredations on standing and stored crops (i.e., corn, stored hay). Increased off-road use on winter range has also likely contributed to late winter and spring trampling of dormant agriculture crops (i.e., winter wheat and alfalfa) during spring thaws. Depredations in the Bennett Hills have decreased tolerance for elk on winter range in portions of the GMU. There is a need for the IDFG to work with the federal land management agencies to address winter recreational use on winter range during crucial times of the year for wildlife.

Biological Objectives

Elk populations have been increasing steadily since their reintroduction in the 1930s. Mild winters in the 1980s and early 1990s enhanced calf survival and increased population growth rates. Liberal antlerless harvest strategies throughout that period were used in an attempt to stabilize population growth.

Recently, data from sightability and herd composition surveys indicate that most populations are reproducing at sustainable levels (≥30 calves:100 cows). An aerial survey conducted in January 2009 indicated that overall elk numbers were below objective for GMUs 43, 44 and 48. Because of this, and because of the 2009 elimination of general any-weapon opportunity in the Pioneer Zone, hunters may have been displaced to these GMUs, the Smoky Mountain and Bennett Hills zone A tags were capped at 726 for the 2010–2013 hunting season.

The January 2009 sightability survey in GMUs 43, 44 and 48 resulted in estimates of 42 calves:100 cows and 32 bulls:100 cows based on a sample of 1,560 cows, 655 calves, and 502 bulls that were observed. Calf:cow and bull:cow ratios vary somewhat by GMU with bull:cow ratios as low as 26 bulls:100 cows in GMU 48 to 34 bulls:100 cows in GMU 43. Calf ratios range from 39 calves:100 cows in GMU 43 to 44 calves:100 cows in GMU 48. The 1999 sightability survey in GMUs 45 and 52 indicated that populations were reproducing at sustainable levels (24 calves:100 cows) and bull ratios were considerably higher than required to maintain the population (58 bulls:100 cows). In 2008, 927 elk were observed in GMUs 45 and 52 during a February mule deer survey. This number was much higher than expected, and prompted an aerial survey for elk in 2010. During the 2010 survey, 567 elk were observed, with 42 calves and 28 bulls per 100 cows (n = 333 cows, 140 calves, and 94 bulls). During 2010 and 2012 Bennett Hills deer and elk surveys, several elk radio-collared at South Fork Boise River feed sites were observed in GMU 45, suggesting that some elk that previously wintered in GMU 43 were now wintering in GMU 45. This relatively new migration was likely contributing to observed low winter survey numbers in the Smoky Mountain Zone. As a result of this information, the Smoky Mountain and the Bennett Hills zones were combined to form the Smoky–Bennett Zone in 2014.

In 2015 the newly formed Smoky-Bennett Zone was surveyed. The observed bull:cow:calf ratio was 36:100:43. Total cows, bulls, and adult bulls observed were near the upper limit of objectives. With elk populations growing in the zone, depredations, especially during the summer months, have drastically increased. To curb population growth and reduce depredations, liberal hunting seasons and tag allocations were implemented in the zone in 2019. In 2019, IDFG implemented a 2,500 permit over-the-counter (“B” tag; first-come, first-served) antlerless elk

hunt in GMUs 45 and 52. This hunt was open from November 1st – 30th. In 2019, 1,997 hunters participated in the "B" tag antlerless elk hunt, and 370 elk were harvested (19% success rate).

No elk have been fed along the South Fork Boise River in GMU 43 since 2009. Currently, very few elk winter in GMU 43 and most migrate to lower elevations in GMUs 39 (Boise River Zone) and 45.

Capture and Radio-Telemetry

The IDFG is currently implementing a comprehensive statewide elk mortality study which includes the Smoky-Bennett Zone. Cow and calf elk are fitted with radio collars to monitor survival rates, cause specific mortality, habitat use, and seasonal movements. Within the zone, 11 calf elk and 37 cow elk were monitored during the 2019-2020 winter. As of May 2019, calf and adult cow survival was 82% and 97% respectively.

Population Surveys and Monitoring

Sightability surveys are conducted periodically by elk zone to determine herd composition and derive a population estimate. These estimates are then compared to objectives outlined in the Elk Management Plan (IDFG 2014) to determine what management direction is needed.

No sightability surveys were conducted in the Smoky-Bennett Zone during this reporting period; however, a survey is scheduled to be conducted in the zone during the 2020/2021 winter.

Inter-specific Issues

The zone supports a substantial population of mule deer, numerous moose, and, at higher elevations, mountain goats. The relationship between deer and elk is presently unclear but is not believed to be a significant issue in this zone. Historically, most elk remained at feed sites in GMU 43 during winter while most mule deer migrated to winter ranges in GMUs 45 and 52. Since the feed sites were decommissioned, elk are now wintering in the lower elevations of GMUs 45 and 52 creating the potential for competition with mule deer, particularly during periods of severe winter weather.

Cattle and domestic sheep have imposed the most significant forage demand in this zone since the 1870s. Excessive use by cattle and domestic sheep severely damaged watersheds in the late 1800s and early 1900s. Today, livestock use has been reduced to roughly 15% of historic use and competitive concerns remain but tend to be more localized.

Predation Issues

Black bear populations in the zone have remained relatively static over time. Mountain lion numbers probably increased in the late 1980s and early 1990s following increases in mule deer and elk populations and appear to remain at high levels. Wolves have become established in the zone and wolf activity may affect elk activity patterns and seasonal use areas, particularly during winter months. Radio-telemetry data has shown that many of the elk that traditionally wintered in the South Fork Boise River drainage have begun moving to lower-elevation winter habitat in GMUs 39, 44, 45, and 52. Wolves may have been a factor in prompting these new seasonal movement patterns; however, wolves are not considered a significant factor limiting elk

populations in this zone. Wolf control actions are common throughout the zone due to domestic livestock depredations.

Winter Feeding and Depredation

Winter feeding of elk by private entities, particularly in the Big Wood River Valley (GMU 48), can be a contentious issue. During the 1990s and early 2000s, it was not unusual for 700–1,000 elk to be fed at up to 11 different private feed sites in GMUs 44 and 48. Over the last decade IDFG has successfully worked with private feeders to eliminate nearly all private feed sites in the Wood River Valley.

Historically, IDFG managed 4 Commission sanctioned feed sites in GMU 43. Feeding occurred at all or some of the sites in 3 of every 4 years. Since 2009, none of these feed sites have been active and all have been or are in the process of being decommissioned.

Game Management Unit 48 has one Commissioned sanctioned feed site in the Warm Springs Creek drainage. Upwards of 200 elk are fed at this site each winter. The feed site is not intended to sustain the population but rather to shortstop elk before they enter developed winter ranges in the town of Ketchum.

Hunting and Harvest Characteristics

Total harvest in the Smoky-Bennett Zone in 2019 was estimated at 1,241 elk based on the mandatory harvest report. This represents a 6% decrease in harvest from the previous 3 year average of 1,318. Total hunter numbers were estimated at 5,195 in 2019, which is 17% above the 3 year average of 4,457. An average of 66% of the bulls harvested during controlled hunts in these GMUs have been 6-point or larger. The average success rates for controlled hunts was 37% in 2019. Success rates for the past 3 years of general archery hunting have been around 14%.

Disease Monitoring

As part of IDFG's statewide elk survival research all elk are tested for brucellosis. One adult cow collared in GMU 45 was sero-positive in 2018 and was euthanized by IDFG personnel. Culture samples collected by a USDA veterinarian were negative.

Management Discussion

More detailed information is needed on movement patterns of elk causing damage to agricultural crops to improve harvest management. In addition, population surveys, survival monitoring, and movement studies are important information we use to inform federal, state, and local land management decisions.

According to USDA's National Agriculture Statistics Bulletin, corn is being planted in Idaho at an increasing rate. In 2006, 270,000 acres of corn were planted statewide. By 2017 corn production had increased 26% to 340,000 acres. The increase in corn acres has changed the agriculture landscape and elk are adapting to this resource rapidly. The IDFG has been responding to an increasing number of elk depredations in corn. As a result, claims paid for corn depredation have increased substantially, particularly in GMUs 45 and 52.

Due to the widespread increase in elk depredations throughout southern Idaho, IDFG commissioned a research project, testing the effectiveness of deterrent treatments intended to modify elk behavior and subsequently reduce agriculture crop use. Realizing that land management alters the nutritional landscape and elk change behaviors to increase fitness benefits on this landscape, the intent of this project was to learn more about the behaviors of elk using agriculture landscapes and identify management tools that could be used to mitigate elk-agriculture conflicts. In 2018 and 2019, 47 elk were radio collared in the Smoky-Bennett Zone for this research. The results of this project will provide a better understanding of elk use in an agriculture landscape and how certain treatments can be used by wildlife managers to address elk depredation. Data analysis and results of this project should be complete by December, 2020.

The Bennett Hills is one of the most important winter ranges for elk in the Magic Valley Region. There is a need for improved monitoring of winter range condition and trends. Antler shed hunting has become extremely popular in the Bennett Hills. There is concern that shed-antler hunters using motorized vehicles to travel cross-country are displacing elk onto private property. Additionally, private landowners are experiencing increased trespass incidents and vandalism to private roads, gates, and fences. The Bennett Hills are slated for an updated travel management plan in the near future that will focus on seasonal management of motorized and non-motorized use.

The growing radio telemetry dataset from collared elk within the region is currently being used for the statewide Integrated Population Model (IPM). The telemetry data is also being used to identify key highway crossing areas and migration corridors for elk. U.S. Highway 20 which connects Blaine and Camas counties with Mountain Home and Boise has been identified as a hot spot for wildlife-vehicle collisions, and as such, will be receiving greater attention for prioritizing mitigation efforts of roadway mortalities.

Habitat conversion is an overarching concern on both summer and winter ranges in portions of the Smoky-Bennett Zone. Fire suppression and in some cases livestock use, has caused a general decline in the health of aspen communities as stands become more decadent or are replaced by conifers. Winter ranges, primarily in GMUs 45 and 52, were once dominated by sagebrush-grass communities with a moderate bitterbrush component. Decreasing quality of winter ranges due to the establishment of invasive plant species that provide little forage value for elk, and high intensity fires that propagate the spread of invasive plant species, particularly medusa head and cheatgrass, present a serious concern to the future health of the habitat. Rehabilitation and protection of these important winter ranges will require careful long-term planning that will maintain adequate winter forage for elk.

Conservation easements and/or acquisition of private lands in strategic locations would also help increase or maintain winter carrying capacity for elk. Currently, private interests own or control access to important summer and fall habitats in GMUs 44 and 45. This has been a subject of much concern by hunters unable to gain access to areas they wish to hunt. Access regulation will continue to be an important issue for deer and elk management.

Elk Zone

Smoky-Bennett (GMU 43, 44, 45, 48, 52)

3-Year Averages (2017-2019)

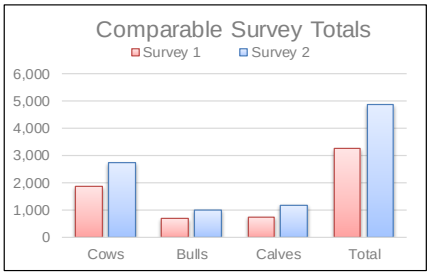
Hunters	4,457	Antlered	583
Hunter Days	29,456	Antlerless	735
Success	30%	% ≥6 Point	61%
Harvest	1,318		

Zone Characteristics

Square Miles	3,982
% Public Land	72%
Land Type	Rangeland Agriculture

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2015	2,712	986	649	2,000-3,000	620-930	400-595
Bulls per 100 Cows			36	24		30-35	18-22

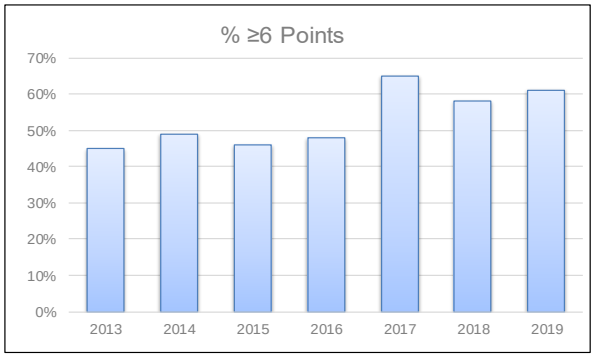


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
43, 44, 48	2009	1,560	502	655	2,717	2015	1,331	481	582	2,394
45, 52	1999	300	175	73	548	2015	1,381	505	591	2,477
Comparable Surveys Total		1,860	677	728	3,265		2,712	986	1,173	4,871
Per 100 Cows			36	39				36	43	

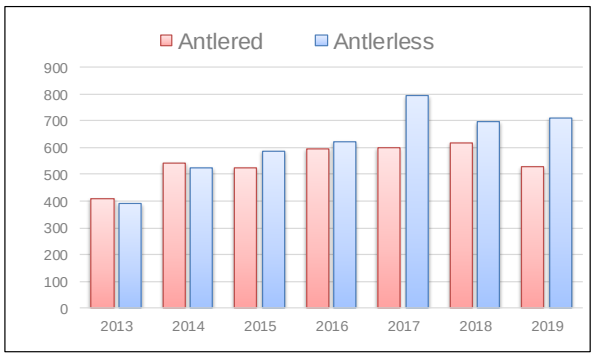
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	89%	70%	82%
Cow Survival	-	-	-	-	97%	97%	97%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	767	1,094	1,367	1,808	1,329	1,408	1,334
Hunter Days	5,061	8,149	9,267	12,972	10,139	10,930	10,353
Antlered	145	243	268	285	149	184	142
Antlerless	70	40	58	28	35	41	35
Harvest	215	283	326	313	184	225	177
Success Rate	28%	26%	24%	17%	14%	16%	13%
% ≥6	19%	33%	26%	26%	45%	46%	49%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	266	139	112	81	71	1,997
Hunter Days		1,249	882	582	414	397	12,932
Antlered		2	0	0	0	0	0
Antlerless		99	11	42	18	12	370
Harvest	0	101	11	42	18	12	370
Success Rate		38%	8%	38%	22%	17%	19%
% ≥6		50%					
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,156	1,380	1,746	1,951	2,678	2,610	1,864
Hunter Days	6,501	4,621	9,172	10,973	15,827	15,106	12,271
Antlered	265	295	258	309	450	435	388
Antlerless	321	385	517	552	744	644	306
Harvest	586	680	775	861	1,194	1,079	694
Success Rate	51%	49%	44%	44%	45%	41%	37%
% ≥6	60%	61%	67%	68%	72%	63%	66%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,923	2,740	3,252	3,871	4,088	4,089	5,195
Hunter Days	11,562	14,019	19,321	24,527	26,380	26,433	35,556
Antlered	410	540	526	594	599	619	530
Antlerless	391	524	586	622	797	697	711
Harvest	801	1,064	1,112	1,216	1,396	1,316	1,241
Success Rate	42%	39%	34%	31%	34%	32%	24%
% ≥6	45%	49%	46%	48%	65%	58%	61%



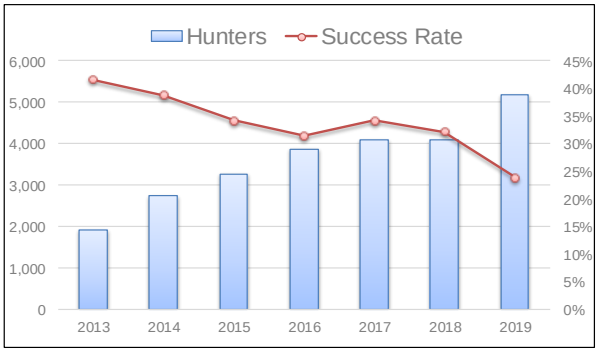


Figure 18. Smoky-Bennett Zone Elk Status and Objectives.

South Hills Zone (GMUs 46, 47, 54, 55, 56, 57)

Historical Background

During the late 1800s, elk in South Hills Zone were nearly eliminated because of unrestricted hunting and conflicts with the area's growing livestock industry. Elk densities remained low throughout the twentieth century but began to increase in the 1990s.

Efforts by the Nevada Division of Wildlife (NDOW) to reestablish elk in the northern portion of that state have been very successful. Elk are expanding their range into suitable habitats in Nevada and Idaho that have not had resident elk for nearly a century. Translocations in Nevada have been used to hasten the growth in elk numbers. Since the mid-1980s, 523 elk have been released into 5 areas in northern Nevada (Elko County). The overall Nevada population in 2002 was estimated to be 2,260 head with a management cap of 4,480 elk. Currently, approximately 5,000 Nevada elk winter in Idaho, primarily on the Diamond A in GMU 41 and the Inside Desert of GMU 46. Large elk herds (250–300) have also been noted wintering in Shoshone Basin and south of Murtaugh in GMU 54. More elk are residing year-round in Idaho and elk distribution is expanding.

As per the 2014 –2024 Idaho Elk Management Plan, the Owyhee and South Hills Zone were split into 2 elk management zones to better address management issues in the 2 zones, respectively. In 2014, GMU 56, which was previously in the Bannock Zone, was included into the South Hills Zone.

Elk numbers in the South Hills Zone GMUs were very low throughout the 1900s. Elk sightings were considered uncommon and management emphasized providing quality mule deer hunting opportunities. In 1916, IDFG reintroduced 19 elk (17 cows, 2 bulls) into GMU 54. Following the release, elk numbers increased only slightly. In 1950, there were approximately 60 elk wintering in GMU 54. Hunting seasons were authorized from 1963 –1966 (5 –15 tags) but were discontinued because of low success. In 1990, the Magic Valley RMEF chapter proposed releasing elk into GMU 54 to establish a larger, huntable resident elk population. Since ingress of elk from Utah and Nevada was beginning to occur at that time, it was decided to allow elk numbers to increase naturally without translocations. Although reliable estimates of elk numbers are currently unavailable, the population in GMUs 46, 47, 54, 55, and 57 in 2002 was estimated between 250 and 350 elk, exceeding the 1998 objective. Elk hunting was authorized in GMUs 46, 47, and 54 in 2002 with 15 either-sex archery tags, 15 any-weapon antlered tags, and 15 any-weapon antlerless tags. Similar hunting seasons were authorized from 2003 through 2005 with the antlerless hunt tag level increased from 15 to 40 tags.

Because these GMUs have not traditionally been managed to maintain a resident elk population, IDFG scoped 3 possible management scenarios with the public between December 2001 and February 2002. These scenarios were 1) do not allow an elk population to become established; 2) allow slow, carefully monitored growth of the elk herd to allow timely and effective responses to issues or conflicts that might arise; and 3) maximize elk population growth. Of the 230 people surveyed on the issue, 7% favored Scenario 1, 52% favored Scenario 2, and 41% favored Scenario 3. Hunters overwhelmingly favored the establishment of a resident elk population.

Ranchers were split between Scenarios 1 and 2 and expressed concerns about the potential for elk to compete with livestock for forage on public and private grazing lands.

The IDFG has allowed elk populations to increase within the South Hills Zone. Due to significant pressure from private landowners, IDFG opened a zone-wide, 5 month 'B' tag "greenfield hunt". During the first year of this hunt, harvest numbers were very high and during public scoping for 2015 seasons, both landowners and sportsmen strongly supported reducing the season from 5 months, to one month (1 August–29 August). As elk populations in Nevada and Utah and resident herds in Idaho continue to grow, IDFG has increased hunting opportunities accordingly. To stabilize the increasing elk populations and reduce depredation, a 4 month (Aug. 1 – Nov. 30) "greenfield" hunt was implemented in GMU 46 for either-sex elk in 2019. Controlled hunt tag allocations for antlered elk were also increased in many of the zones GMUs. Additionally, 2 zone-wide Landowner Permission Hunts were implemented to provide more hunting opportunities on private land.

Currently the number of cross-borderelk wintering in Idaho, particularly in GMUs 54 and 56, appears to be increasing which has resulted in private property depredation on stored (i.e., hay), standing (i.e., corn) and dormant (i.e., winter wheat) crops. In 2019, opportunity for elk hunting was substantially increased throughout many areas in the zone for purposes of stabilizing population growth and reducing elk depredation on growing and stored crops and rangeland.

The South Hills Zone is characterized by open country with moderate to high road densities. Elk permit levels have generally been low to ensure a quality hunt (i.e., low hunter densities, good opportunity to harvest mature bulls). With expanding elk populations, antlerless permit levels will need to be adjusted accordingly, but conflicts with too many hunters in open environments will need to be addressed. Excessive competition and unethical hunter behavior is often seen when large groups of elk are pursued in open country. Maintaining a quality hunting experience for trophy bull elk while increasing antlerless harvest will continue to be a top management priority in the future. As depredations continue to rise from resident herds building a dependence on agriculture, IDFG will work with landowners to mitigate damages on private lands (i.e., providing landowners with LPH vouchers).

Increases in winter and spring time recreational activities on federal land within the South Hills Zone have been implicated in the displacement of elk onto private land, resulting in widespread depredations on agriculture crops near winter range. Displacement results in late winter and spring trampling of dormant agriculture crops (i.e., winter wheat and alfalfa) during spring thaws. Depredations in the South Hills have decreased tolerance for elk on winter range in portions of the GMU 54. There is a need for IDFG to work with the federal land management agencies to address winter and early spring recreational use on winter range during crucial times of the year for wildlife.

Management Objectives

The objective in the South Hills Zone (Figure 11) is to provide high-quality hunting opportunities commensurate with elk population status. These elk populations will be stabilized or decreased in an effort to manage private property damage complaints at or below 2014 levels.

Antlered harvest management will continue to emphasize the opportunity to harvest a mature bull.

The 6 GMUs within this zone vary substantially in their potential to sustain elk populations under current biological and socio-political constraints. Management will retain enough flexibility to allow adjustments of elk numbers to address issues that may arise.

Habitat Management and Monitoring

Elk habitat type and quality in the South Hills Zone varies considerably between GMUs, as does the potential for depredation. The USFS and BLM manage most of the elk habitat in the South Hills Zone. Habitat conditions in large portions of the zone are currently suitable for supporting substantially higher numbers of elk. A large amount of sagebrush, bitterbrush, and mountain shrub-dominated habitats in GMUs 46, 47, 54, and 57 preferred by mule deer have been altered by fire, improving elk habitat suitability. However, high road densities, the open character of habitat, and depredations are important issues that will ultimately help determine elk management objectives.

Biological Objectives

Elk densities have traditionally been low in this zone; therefore, surveys have not been conducted to provide data on population dynamics. Elk objectives are not derived from aerial surveys due to expansive land area, dispersed groups of elk, poorly defined winter range, difficult winter access, and interstate migratory patterns. However, Nevada Department of Wildlife (NDOW) conducts annual winter surveys and routinely fly wintering elk herds in GMUs 41, 46, and 47.

Anecdotal information, the number of depredation complaints, and NDOW aerial surveys support the premise that these populations are increasing, but accurate estimates of population size are unavailable. Increases in elk numbers over the next 5–10 years are inevitable from natural reproduction and continued ingress of elk from Nevada. Although elk numbers in some GMUs currently exceed population objectives established in 1998, no major biological issues have been identified. However, elk impacts to mule deer and bighorn sheep ranges are concerns that biologists will continue to monitor.

Capture and Radio-Telemetry

As part of the IDFG's elk population monitoring program, calves and cows are captured and fitted with radiocollars in selected elk zones throughout the state. The South Hills Zone is not part of this program although the deployment of radio collars in the zone would help define seasonal movement patterns and habitat use. The IDFG provided NDOW with 5 radio collars which were deployed on elk wintering in Idaho.

Population Surveys and Monitoring

Sightability surveys are conducted periodically in elk zones to determine herd composition and population estimates. These estimates are then compared to objectives outlined in the elk plan to determine what management direction is needed.

No sightability surveys were conducted in the South Hills Zone during the reporting period. NDOW counted approximately 5,000 elk in GMUs 41 and 46 in January 2017. The winter of 2016-2017 produced the highest recorded snowfall in 25 years. Conversely, the winter of 2017-2018 was mild and only 2,200 elk were counted by NDOW in Idaho.

Inter-specific Issues

The South Hills Zone has traditionally maintained a large population of mule deer. However, deer numbers have declined from levels observed in the early 1990s due to changes in habitat caused by wildfire, exotic annual grass proliferation, and the effects of drought and severe winters. The current elk population is not believed to have an impact on mule deer.

In 2016, NDOW observed 3,900 elk wintering on the Diamond A in GMU 41, and many elk were noted in the Bruneau and Jarbidge River canyons. The impact of elk on bighorn sheep is unknown, but is a concern for biologists.

Cattle and domestic sheep have imposed the most significant forage demand in this zone since the 1870s. Use by cattle and domestic sheep severely damaged watersheds in the late 1800s and early 1900s. Today, livestock use has been reduced to roughly 15% of historic use and competitive concerns remain high but tend to be more localized.

Landowner concerns regarding elk in the South Hills Zone include fence damage, loss of private and public rangeland forage, and agriculture depredations. Depredations that occur will be aggressively dealt with by IDFG in a timely manner as specified in Idaho Code (36-1108) and IDFG policy. The IDFG will work closely with private landowners to avoid development of chronic problems. On federal lands, any resource damage attributed to elk will be jointly evaluated by IDFG and managing agency.

Predation Issues

Mountain lion is the primary predator of elk in this zone. Predation is presently not a major factor limiting growth of these elk populations, nor is it anticipated to become a concern.

Winter Feeding and Depredation

The South Hills Zone has no history of supplemental winter-feeding. Elk numbers will not be maintained at a higher level than can be supported by available winter habitat. Unsanctioned feeding by private individuals will be strongly discouraged. In the event that emergency feeding is necessary, elk populations will be reduced to resolve the problem.

Harvest Characteristics

Total harvest in the South Hills Zone in 2019 was estimated at 471 elk based on the mandatory harvest report. This represents an 11% increase in harvest from 2018 (423) and is 11% above the previous three-year average of 426. Total hunter numbers were estimated at 2,138 in 2019 compared to 1,288 hunters in 2018. An average of 83% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger. The three-year average success rate on general hunts is 13% while controlled hunt success rates are 40%.

Disease Monitoring

Annual CWD surveillance has occurred in Idaho at hunter check stations since 1997, with 16,000+ cervids (mule deer, white-tailed deer, elk, and moose) sampled from around the state. No samples were collected from elk in this zone in 2019. Currently CWD has not been detected in Idaho.

Management Discussion

Elk population estimates in the South Hills Zone are lacking, and the limited population information available is primarily based on data from NDOW (GMUs 46 and 47) and anecdotal reports from ranchers, biologists, and hunters. More accurate data will be needed as elk numbers increase. In addition, information is needed on the seasonal movement patterns of elk causing damage to agricultural crops. This information will help improve harvest management strategies.

According to USDA's National Agriculture Statistics Bulletin, corn is being planted in Idaho at an increasing rate. In 2006, 270,000 acres of corn were planted statewide. By 2017 corn production had increased 26% to 340,000 acres. The increase in corn acres has changed the agriculture landscape and elk are adapting to this resource rapidly. The IDFG has been responding to an increasing number of elk depredations in corn, particularly in GMUs 46 and 56. As a result, depredation claim payments for corn damages have increased substantially.

Hunter crowding, trespass, off-road vehicle use, and private property damage have become concerns on Black Pine Mountain in GMU 57, especially during the general archery season. The Idaho Fish and Game Commission has provided direction to IDFG to evaluate hunter crowding and develop strategies to address the issue throughout the State. In the interim, IDFG staff increased their presence in the Black Pine area during the archery season to encourage hunters to avoid crowding.

Elk Zone

South Hills (GMU 46, 47, 54, 55, 56, 57)

3-Year Averages (2017-2019)

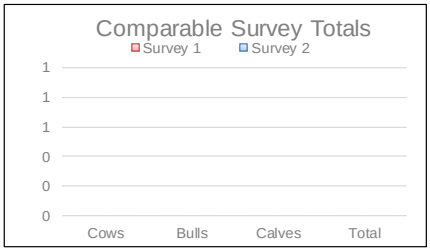
Hunters	1,545	Antlered	219
Hunter Days	9,512	Antlerless	207
Success	29%	% ≥6 Point	83%
Harvest	426		

Zone Characteristics

Square Miles	6,640
% Public Land	67%
Land Type	Rangeland Agriculture

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	ND						
Bulls per 100 Cows							

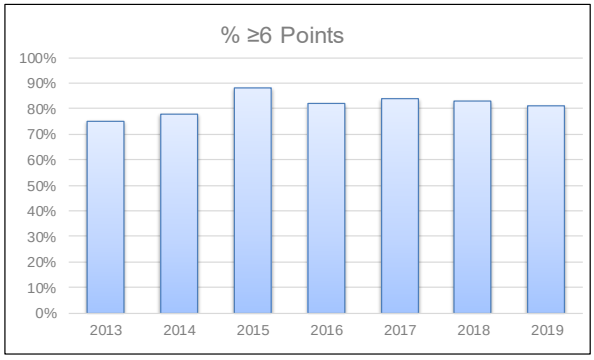


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	ND				0					0
Comparable Surveys Total		0	0	0	0		0	0	0	0
Per 100 Cows										

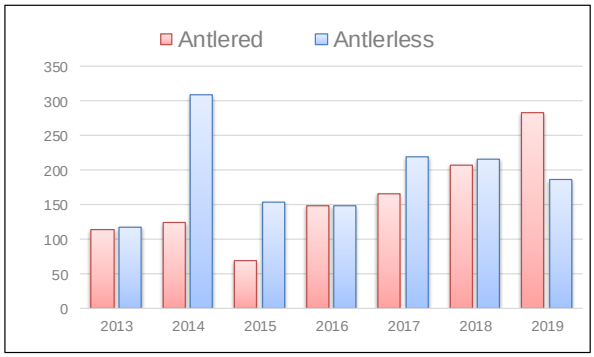
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	-	-	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	477	456	285	348	434	470	806
Hunter Days	3,438	3,428	2,219	2,695	3,534	4,285	5,591
Antlered	23	58	16	46	41	59	121
Antlerless	30	15	10	3	2	19	6
Harvest	53	73	26	49	43	78	127
Success Rate	11%	16%	9%	14%	10%	17%	16%
% ≥6	61%	71%	69%	61%	71%	62%	73%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	1,668	186	129	24	28	336
Hunter Days		13,364	1,139	712	77	121	1,503
Antlered		0	3	0	0	0	0
Antlerless		262	53	39	2	7	16
Harvest	0	262	56	39	2	7	16
Success Rate		16%	30%	30%	8%	25%	5%
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	610	270	375	454	750	790	996
Hunter Days	3,949	1,659	2,049	2,516	3,656	3,926	5,843
Antlered	91	67	50	102	125	148	163
Antlerless	88	32	90	106	215	190	165
Harvest	179	99	140	208	340	338	328
Success Rate	29%	37%	37%	46%	45%	43%	33%
% ≥6	79%	85%	100%	89%	88%	91%	87%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,087	2,394	846	931	1,208	1,288	2,138
Hunter Days	7,387	18,451	5,407	5,923	7,267	8,332	12,937
Antlered	114	125	69	148	166	207	284
Antlerless	118	309	153	148	219	216	187
Harvest	232	434	222	296	385	423	471
Success Rate	21%	18%	26%	32%	32%	33%	22%
% ≥6	75%	78%	88%	82%	84%	83%	81%



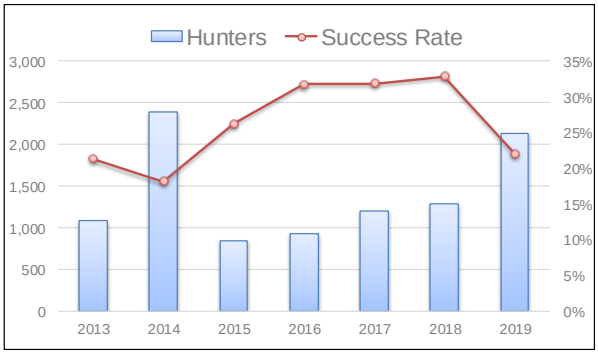


Figure 19. South Hills Zone Elk Status and Objectives.

Big Desert Zone (GMUs 52A, 68)

Historical Background

The elk population in the Big Desert Zone has increased substantially from early historical records. Accounts of trappers through this area in the mid-1800s suggest that, although elk were common, buffalo, bighorn sheep, and pronghorn were far more numerous. Unregulated harvest of the late 1800s and early 1900s likely reduced populations to relatively low levels.

Elk hunting in the Big Desert Zone began in 1983 with 30 either-sex tags for GMU 63. Since that time, elk numbers and tag numbers have increased substantially. In 2001, the Big Desert Zone was restructured from 6 GMUs (52A, 53, 63, 63A, 68, 68A) to 2 GMUs (52A, 68). Between 2001 and 2007, all elk tags in the Big Desert Zone were issued on a controlled hunt basis. Beginning in 2008, an archery-only general elk hunt was authorized in this zone.

Management Objectives

The objective for the Big Desert Zone (Figure 20) is to reduce elk populations. Elk depredation on standing and stored crops is an important issue in this zone. As agricultural crop and property damage have increased, so have antlerless tag numbers. Hunter success has remained high in the Big Desert Zone. Where agricultural concerns are manageable, elk numbers will be maintained at levels which limit agricultural damage. As with other zones limited by agricultural impacts, the overall goal is to strike a balance between being responsive to depredation issues while still providing hunting opportunity.

Habitat Management and Monitoring

The Big Desert Zone represents some of the least productive habitat found in eastern Idaho. Comprised of mostly dry desert shrub habitat types, this zone provides limited summer range for elk.

The BLM administers the majority of public ground (67% of total area) in the Big Desert Zone. Private ground makes up 24%, state endowment lands 4%, and other federal agencies (National Park Service, USFWS, Department of Energy, etc.) make up about 5%.

A number of water guzzlers have been developed zone primarily for nongame, upland game, and pronghorn within the Big Desert Zone. Although the impacts to other wildlife are unknown, elk have permanently damaged some guzzlers which can prematurely dry up storage tanks. Many of the guzzlers on federal land have fallen into disrepair and are being removed.

Wildfires continue to play a major role with habitat throughout the Big Desert Zone. In many cases, fire has removed sagebrush and much of the public land has been reseeded to crested wheatgrass or invaded by cheatgrass and other invasive plants, theoretically improving seasonal habitat conditions for elk.

Biological Objectives

With the exception of a few Idaho National Laboratory (INL) aerial surveys generally covering the northeast corner of the zone, population surveys have not been conducted in the Big Desert Zone. Therefore, estimates for recruitment and total numbers are based on other data.

Over the past few years, depredation issues have increased in portions of GMU 52A. Because of this, an antlerless general hunt ("B" tag) capped at 500 tags was implemented to target depredating elk in 2019. Close monitoring of elk depredations will continue, and additional hunts may be implemented or amended to address this issue. With the addition of this new general hunt, the extra antlerless controlled hunts were removed.

In 2017 the archery hunt in GMU 68 was extended to include the month of August in an attempt to alleviate chronic depredation issues and limit agricultural damage along agriculture desert interface.

Capture and Radio-Telemetry

As part of the IDFG's elk population monitoring program, calves and cows are captured and fitted with radio collars in selected elk zones throughout the state. The Big Desert Zone is not part of this program.

Population Surveys and Monitoring

Sightability surveys are conducted periodically by elk zone to determine herd composition and derive a population estimate. These estimates are then compared to objectives outlined in the elk plan to determine what management direction is needed.

No sightability surveys were conducted in the Big Desert Zone during the reporting period.

Inter-specific Issues

Livestock, mule deer, and pronghorn are the primary ungulates sharing range with elk in the Big Desert Zone. We are unaware of significant concerns regarding elk competition for forage with livestock. It is unknown what, if any, impacts an increasing elk population may have on pronghorn or mule deer.

Predation Issues

Coyotes are the dominant predators within this zone. However, they are not believed to be a significant factor in elk population dynamics.

Winter Feeding and Depredation

Emergency supplemental feeding of elk has not been conducted recently. The relatively inaccessible nature of this zone in winter and generally limited snowfall preclude many concerns for winter feeding. With a lack of historical winter depredations, many hay producers leave their stacks unprotected on the edge of the desert. This may have created a few small herds of wintering elk that remain on the desert and rely on those stacks for supplemental forage. This trend was most noticeable during the 2016–2017 winter when heavy snowfalls drove animals off

of the desert and created several haystack depredations. Several landowners who had haystack depredations were provided with materials to construct permanent stackyards, and the IDFG will continue to monitor and provide landowners with stackyard materials as needed.

Hunting and Harvest Characteristics

Total harvest in the Big Desert Zone in 2019 was estimated at 233 elk based on the mandatory harvest report. This represents an 18% increase in harvest from the previous three-year average of 197. Total hunter numbers were estimated at 752 in 2019 compared to 592 hunters for the previous three-year average. The increase in the number of hunters and animals harvested is a result of the newly implemented over-the-counter antlerless elk hunt. An average of 60% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger. The three-year average success rate on general hunts is 23% while controlled hunt success rates are 44%.

Disease Monitoring

Annual CWD surveillance has occurred in Idaho at hunter check stations since 1997, with 16,000+ cervids (mule deer, white-tailed deer, elk, and moose) sampled from around the state. Currently CWD has not been detected in Idaho.

Because elk were fed in a neighboring GMU (49) during the winters of 2016 and 2017 to alleviate elk-livestock interactions, the IDFG has implemented a brucellosis surveillance program in GMU 52A. Currently all hunters who obtain a landowner permission hunt tag receive a brucellosis test kit. Part of the hunt boundary for the landowner permission hunt in 49-1X includes that portion of GMU 52A in Blaine County within the Little Wood, Fish Creek, and Huff Creek drainages. During the 2018 surveillance period no sero-positive animals were detected in GMU 52A.

Management Discussion

The greatest data need for the Big Desert Zone is reliable population data that provide estimates of abundance, composition, and recruitment and distribution. This information would assist in developing effective harvest and depredation control strategies.

According to USDA's National Agriculture Statistics Bulletin, corn is being planted in Idaho at an increasing rate. In 2006, 270,000 acres of corn were planted statewide. By 2017 corn production had increased 26% to 340,000 acres. The increase in corn acres has changed the agriculture landscape and elk are adapting to this resource rapidly. The IDFG has been responding to an increasing number of elk depredations in corn, including GMU 52A. As a result, claims paid for corn depredation have increased substantially.

Due to the widespread increase in elk depredations throughout southern Idaho, IDFG commissioned a research project in 2018 to test the effectiveness of treatments intended to modify elk behavior and subsequently reduce agriculture crop use. Realizing that land management alters the nutritional landscape and elk change behaviors to increase fitness benefits on this landscape, the intent of this project was to learn more about the behaviors of elk using agriculture landscapes and identify management tools that could be used to mitigate elk-

agriculture conflicts. During the 2018-2019 field seasons 3 elk were radio collared in the northwest corner of GMU 52A for this research. The results of this project will provide a better understanding of elk use in an agriculture landscape and how certain treatments may be used by wildlife managers and private landowners to address elk depredations. Data analysis and results of this project should be complete by December, 2020.

Elk Zone

Big Desert (GMU 52A, 68)

3-Year Averages (2017-2019)

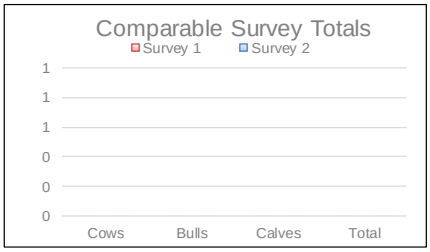
Hunters	592	Antlered	81
Hunter Days	4,525	Antlerless	117
Success	34%	% ≥6 Point	61%
Harvest	197		

Zone Characteristics

Square Miles	3,553
% Public Land	80%
Land Type	Rangeland Agriculture

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	ND						
Bulls per 100 Cows							



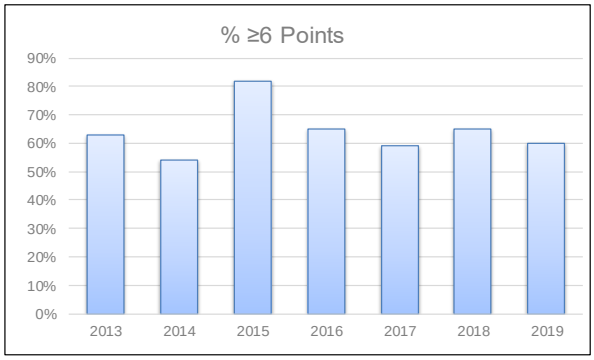
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	ND				0					0
Comparable Surveys Total		0	0	0	0		0	0	0	0
Per 100 Cows										

Note: ND = no survey data available.

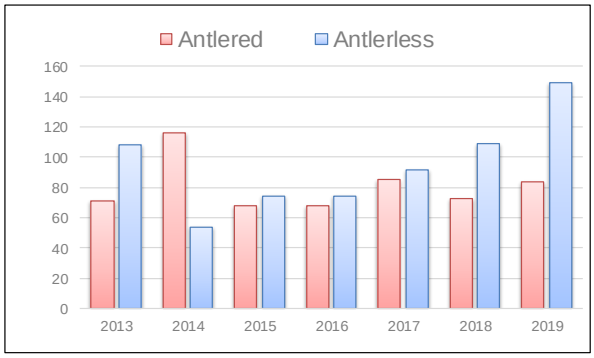
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	-	-	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	183	282	154	173	157	179	153
Hunter Days	1,620	2,071	1,151	1,358	1,322	1,774	1,414
Antlered	26	70	22	31	30	22	41
Antlerless	54	0	3	0	5	9	2
Harvest	80	70	25	31	35	31	43
Success Rate	44%	25%	16%	18%	22%	17%	28%
% ≥6	77%	53%	100%	55%	56%	52%	61%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	430
Hunter Days							2,313
Antlered							
Antlerless							110
Harvest	0	0	0	0	0	0	110
Success Rate							26%
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	306	302	303	310	343	346	169
Hunter Days	7,236	8,176	9,333	2,246	2,580	2,618	1,555
Antlered	45	46	46	37	55	51	43
Antlerless	54	54	71	74	87	100	37
Harvest	99	100	117	111	142	151	80
Success Rate	32%	33%	39%	36%	41%	44%	47%
% ≥6	56%	57%	80%	73%	61%	70%	59%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	489	584	457	483	500	525	752
Hunter Days	8,856	10,247	10,484	3,604	3,902	4,392	5,282
Antlered	71	116	68	68	85	73	84
Antlerless	108	54	74	74	92	109	149
Harvest	179	170	142	142	177	182	233
Success Rate	37%	29%	31%	29%	35%	35%	31%
% ≥6	63%	54%	82%	65%	59%	65%	60%



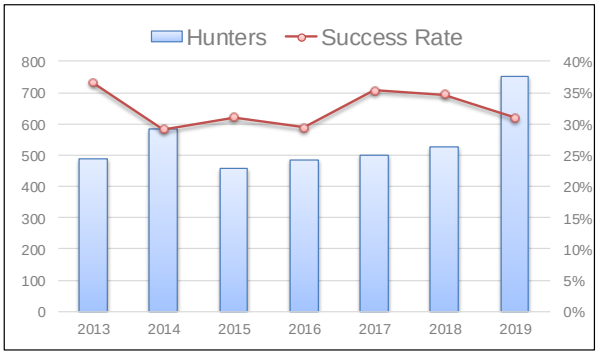


Figure 20. Big Desert Zone Elk Status and Objectives.

Snake River Zone (GMUs 53, 63, 63A, 68A)

Historical Background

The elk population in the Snake River Zone has increased substantially from early historical records. Accounts of trappers throughout this area in the mid-1800s suggest that, although elk were common, buffalo, bighorn sheep, and pronghorn were far more numerous. It is likely that the unregulated harvest of the late 1800s and early 1900s reduced populations to relatively low levels.

The Snake River Zone (GMUs 53, 63, 63A, 68A) was previously part of the Big Desert Zone (GMUs 52A and 68) from the beginning of the zone system in 1998. In 2001 the Big Desert Zone was reorganized and a group of GMUs were removed to form the Snake River Zone.

Elk hunting in the Snake River Zone began in 1983 with 30 either-sex tags for GMU 63. Since that time, elk numbers and harvest opportunity have increased substantially.

Depredation-related issues regularly occur in parts of this zone as irrigated agricultural lands draw elk out from the surrounding arid desert habitat. These issues have influenced the structure of several hunts in the Zone that were created to address elk depredations through long, antlerless and either sex seasons. While depredation issues surrounding Camas National Wildlife Refuge seem to have decreased in the past couple years, elk depredations continue to be an issue, particularly throughout much of GMU 63. This coupled with ongoing trespass issues on private and Idaho National Laboratory lands and enforcement challenges associated with large, highly visible groups of elk in highly accessible areas led the Commission to approve a hunt structure change as a part of the 2019-2020 season setting cycle. GMU 63 was removed from the general season Snake River Zone tag and moved to 2 controlled hunts for the 2019 hunting season.

Management Objectives

The management objective for the Snake River Zone (Figure 21) is to decrease the elk population to a level commensurate with private property depredations. No population survey estimate exists for this zone.

Habitat Management and Monitoring

The Snake River Zone represents some of the least suitable elk summer habitat found in eastern and southern Idaho. Comprised of mostly irrigated agriculture and dry desert shrub habitat types, the Snake River Zone provides limited summer range for elk.

The BLM administers the majority of public ground in the Snake River Zone. Other primary ownership includes private and Department of Energy/Idaho National Laboratory (INL) lands. The INL, which is largely non-hunted, provides daytime refuge for several hundred elk that forage on private cropland at night. Efforts will continue to improve management options available to IDFG for elk on INL.

A number of water guzzlers have been developed primarily for nongame, upland game, and pronghorn within the Snake River Zone. Although the impacts to other wildlife are unknown, elk

have permanently damaged some guzzlers which can prematurely dry up storage tanks. Many of the guzzlers on federal land have fallen into disrepair and are being removed.

Wildfires continue to alter large swaths of habitat throughout the Snake River Zone. Vast expanses of sagebrush habitat has been lost to fire and replaced with non-native annual and perennial grasses. Large fires have become nearly an annual occurrence in portions of the zone. Post wildfire perennial grass seedings have potentially improved habitat conditions for elk.

Biological Objectives

With the exception of a few INL aerial surveys, population surveys have not been conducted in the Snake River Zone. Therefore, estimates for recruitment and total numbers are based on other data. Given the relatively rapid increase in elk observed over the last 15 years, it is believed that production is high. In recent years, depredation issues have increased in portions of GMU 53 near the border of GMU 52A. Recruitment rates are likely high in the Snake River Zone, so meeting the management objective will require high harvest rates.

Capture, Radio-mark, and or Telemetry

No capture, radio-mark, or telemetry activities were conducted during this reporting period.

Population Surveys and Monitoring

No population survey or monitoring activities were conducted during this reporting period.

Inter-specific Issues

Livestock, mule deer, and pronghorn are the primary ungulates sharing the range with elk in the Snake River Zone. We are unaware of significant concerns regarding elk competition for forage with livestock. It is unknown what, if any, impacts an increasing elk population may have on pronghorn or mule deer.

Predation Issues

Coyotes are the predominant large predator within this zone. However, they are not believed to be a significant factor in elk population dynamics.

Winter Feeding and Depredation

Emergency supplemental feeding of elk has not been conducted recently. The relatively inaccessible nature of this zone in winter and generally limited snowfall preclude the need for winter feeding. However, depredations continue to be a significant issue in this zone during both summer and winter months.

During the 2019-2020 winter, elk depredations were high throughout GMU 63. Approximately 150-200 elk crossed Highway 22 from the Beaverhead Mountains and caused damage to haystacks in the area. The Camas Refuge elk herd of 75-100 individuals found feed yards and haystacks to the south while an elk herd of 25-50 south of Mud Lake and a group of 75-100 elk near Howe also depredated multiple stacks in the area. During the summer, depredations continued at a high rate. The Camas Refuge elk herd of 75-100 found an alfalfa field and caused

damage throughout the summer. The INL elk herd of 50-75 found multiple alfalfa fields west of Mud Lake. Another INL herd of 50-75 south of Howe found multiple alfalfa fields and water sources and in the process caused severe damage to many grain fields.

Hunting and Harvest characteristics

Total harvest in the Snake River Zone in 2019 was estimated at 227 elk based on the mandatory harvest report. This represents a 39% decrease in harvest from 2018 (372) and is down compared to the previous three-year average of 379. Total hunter numbers were estimated at 748 for 2019 compared to 1,613 hunters for 2018. The decrease in harvest and hunter numbers is likely due, at least in part, to season structure changes that took effect in 2019. An average of 39% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 25% hunter success rate.

Disease Monitoring

No disease monitoring activities were conducted during this reporting period.

Management Discussion

The greatest data need for the Snake River Zone is reliable population data that provides estimates of abundance, composition, recruitment, and distribution. These data would aid in the development of effective harvest and depredation control strategies.

The IDFG commissioned a research project in 2018 to test the effectiveness of treatments intended to modify elk behavior and subsequently reduce agriculture crop use. Realizing that land management alters the nutritional landscape and elk change behaviors to increase fitness benefits on this landscape, IDFG wants to learn more about the behaviors of elk using agriculture landscapes and identify management tools that could be used to mitigate elk-agriculture conflicts. During the 2018 field season 6 elk were collared within the Pioneer Zone for this research. The results of this project will provide a better understanding of elk use in an agriculture landscape and how certain treatments may be used by wildlife managers and private landowners to address elk depredations.

Elk Zone

Snake River (GMU 53, 63, 63A, 68A)

3-Year Averages (2017-2019)

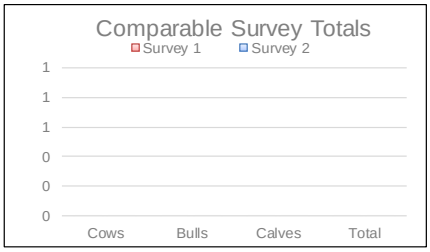
Hunters	1,312	Antlered	134
Hunter Days	11,453	Antlerless	179
Success	25%	% ≥6 Point	39%
Harvest	313		

Zone Characteristics

Square Miles	4,618
% Public Land	43%
Land Type	Desert Rangeland

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	ND						
Bulls per 100 Cows							



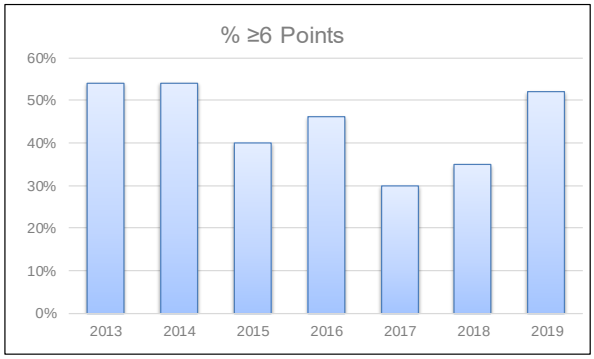
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	ND				0					0
Comparable Surveys Total		0	0	0	0		0	0	0	0
Per 100 Cows										

Note: ND = no survey data available.

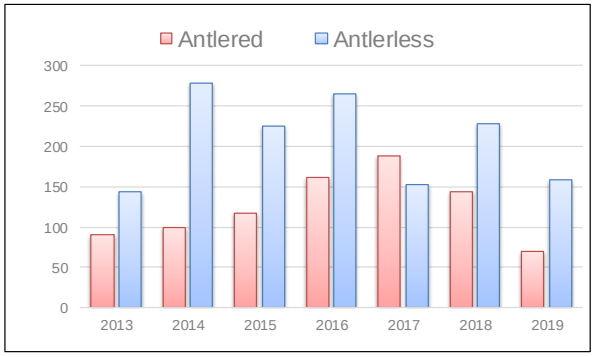
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	-	-	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,409	1,959	1,414	1,552	1,528	1,585	283
Hunter Days	11,234	19,465	12,230	12,433	14,315	13,605	2,572
Antlered	90	99	117	161	188	144	30
Antlerless	140	269	225	241	122	226	32
Harvest	230	368	342	402	310	370	62
Success Rate	16%	19%	24%	26%	20%	23%	22%
% ≥6	53%	54%	0%	46%	30%	35%	47%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	9	15	38	39	46	28	465
Hunter Days	39	53	253	221	169	172	3,526
Antlered	0	0	0	0	0	0	39
Antlerless	3	9	0	24	30	2	126
Harvest	3	9	0	24	30	2	165
Success Rate	33%	60%	0%	62%	65%	7%	35%
% ≥6							55%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,418	1,974	1,452	1,591	1,574	1,613	748
Hunter Days	11,273	19,518	12,483	12,654	14,484	13,777	6,098
Antlered	90	99	117	161	188	144	69
Antlerless	143	278	225	265	152	228	158
Harvest	233	377	342	426	340	372	227
Success Rate	16%	19%	24%	27%	22%	23%	30%
% ≥6	54%	54%	40%	46%	30%	35%	52%



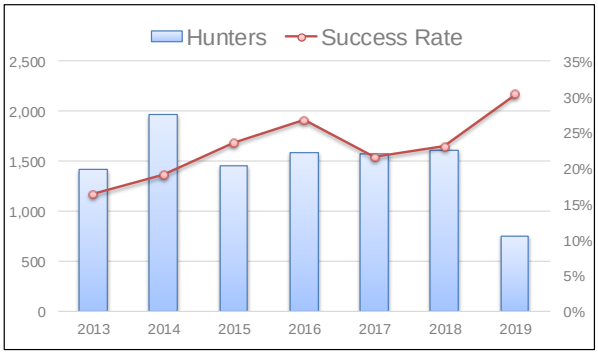


Figure 21. Snake River Zone Elk Status and Objectives.

Bannock Zone (GMUs 70, 71, 72, 73, 73A, 74)

Historical Background

According to the Pocatello Deer-Elk Herd Management Plan (1945), in the early 1900s, elk were not found in the area and "deer were a rarity." In 1916–1917, 35 elk were transported by train from Gardiner, Montana, and released west of Pocatello. Counts in the 1930s and 1940s found 500–600 elk. By 1950, elk were reported to be spreading into the Elkhorn Mountain and John Evans Canyon areas (GMU 73), Blackrock (GMU 71), and Crystal and Midnight creeks (GMU 70). In a 1940 report, Ted Trueblood said, "Elk (in this area) are a liability and a problem; deer would be an asset."

Elk hunts were first offered in the zone in 1933. Elk numbers declined in the 1950s, likely due to overharvest, and seasons were closed. Permit hunts were offered in some GMUs between 1962 and 1968. Populations remained at very low levels into the late 1980s. Since that time, elk have expanded throughout the Bannock Zone, but are generally found in small groups with a sporadic distribution.

Management Objectives

Objectives for Bannock Zone (Figure 22) are to maintain elk populations, hunter opportunity, and hunter success similar to current levels. Maintaining elk populations at levels which limit agricultural impacts will remain a priority. The Bannock Zone is one of few where aerial surveys are not conducted due to the large area and dispersed groups of elk. Elk populations in this zone are managed through analysis of antlerless harvest and percent 6-point bulls in the harvest.

Habitat Management and Monitoring

The topography of Bannock Zone is characterized by low, north-south mountain ranges separated by broad valleys. Elevations range from 4,000–9,000 feet. Mountains support mixed conifer/aspen stands on north slopes and mountain brush/grass communities on southern exposures. Juniper and mountain mahogany are common on lower slopes. Valleys are agricultural with large expanses of grain, pasture, and hay. Grazing, fire suppression, and urbanization are additional factors affecting habitat in the zone.

Although extensive variation exists, the habitat in the Bannock Zone is generally less productive than many other areas of southeastern Idaho (e.g. less precipitation and fewer water sources). However, much of the area is still quality elk habitat. Three main vegetation types predominate: sagebrush-grassland, aspen, and conifer. However, mahogany, juniper and mountain brush communities are also present and likely important to elk populations. Past research on habitat-use indicates that aspen habitat types are highly preferred, especially during non-snow periods. Unfortunately, in recent decades, conifer encroachment, fire suppression, and other influences have reduces the quality of these aspen communities.

Landownership is approximately 56% private, 14% BLM, 11% USFS, 11% Indian Reservation or Bureau of Indian Affairs, 6% State of Idaho and 2% other. Motorized access is extensive with few areas that are long distances from roads or motorized trails.

Winter range in the Bannock Zone consists of Juniper, mixed mountain brush, mahogany, and grassland communities (some of which are CRP acreage). Some of the potential elk winter range is privately held or adjacent to agriculture and depredation concerns have been moderate.

Biological Objectives

The 2014-2024 Elk Management Plan specifies that the elk population in the Bannock Zone should be maintained at current levels. Beyond this, very little biological data is available and no population objectives are set for this zone.

Capture, Radio-mark, and or Telemetry

The Bannock Zone has not been a priority for monitoring elk survival with collars in the recent past. However, in December 2019, 2 calves were collared in GMU 72. These calves were collared as a part of the survival monitoring effort in the Diamond Creek Zone because a large elk herd, believed to be from Diamond Creek, moved into the area East of Bancroft.

Population Surveys and Monitoring

Population surveys are not conducted in the Bannock Zone due to the large area and dispersed groups of elk.

Inter-specific Issues

The concurrent increase in numbers of elk and decrease in mule deer on some winter ranges has raised concerns about possible competition for forage and/or social intolerance. Livestock operators in several areas have complained about increasing use of forage by elk on public land grazing allotments and private lands.

Predation Issues

Mountain lions are the major natural predators of elk in the zone and populations are currently thought to be quite high. However, expanding populations of elk do not indicate that predation is significantly impacting numbers. Coyotes are quite common but not believed to be a major predator of elk. Black bears exist at extremely low levels within the zone and, therefore, are not an important source of mortality for elk. There are no known wolf packs in the zone; however the IDFG receives the occasional wolf observation report.

Winter Feeding and Depredation

During the winter of 2019-2020 no winter feeding took place in the Bannock Zone.

Depredations in the Bannock Zone generally occur in late summer into fall. Crops involved are alfalfa, small grains, and sanfoin. Most of these depredations occur in 73, 73A and 74. During this reporting period night hazing, zon guns, pyrotechnics, depredation hunts, landowner permission hunts and kill permits were used to address depredation problems and fewer than 10 crop damage claims were processed. Several stackyards have been installed in an effort to alleviate some depredation concerns.

In August 2017, the Powerline fire burned over 30,000 acres in GMU 70 and appears to have caused elk distribution to shift, resulting in an increase in depredation complaints in GMU 70. These complaints continued during this reporting period. Additionally, a large herd of elk (~400) near Swan Lake (GMU 74) have been creating depredations and public safety hazards in the fall and winter months. Conflicts with landowners and concerns about public safety on roadways have increased during the past year. During this reporting period, staff worked with landowners to keep elk away from the highway. Additionally, the antlerless harvest season was extended in this area to allow for additional harvest. Kill permits have also been implemented to address conflicts in the Bannock Zone. Elk depredations in the rest of the Bannock Zone have remained relatively stable.

Hunting and Harvest Characteristics

Total harvest in the Bannock Zone in 2019 was estimated at 489 elk based on harvest reporting. This represents a slight increase in harvest from 2018 (443). Harvest has trended higher since 2013 (albeit with a slight dip in 2018). Antlerless harvest during this reporting period totaled 278, in increase from the 235 harvested in 2018, but still lower than the highs experienced in 2017. Harvest reports estimate that 211 bulls were harvested on antlered-only hunts, which is very similar to 2018 (208 bulls). Of the individuals harvested on antlered only hunts 49% had more than 6-points on one side during the general archery hunt, while 66% had more than 6-points on one side during the controlled hunts. 1,896 hunters participated in the Bannock Zone general hunt in 2019. This is a notable increase from the 1,708 hunters in 2018 and is the highest estimated count. Controlled hunters increased from 221 in 2018 to 274 in 2019, due to increases in tags allocated through the season setting process.

Disease Monitoring

The Bannock Zone is outside of Idaho's Designated Surveillance Area (DSA) for brucellosis. However, the Bannock Zone is within one of 3 areas with focused brucellosis surveillance that rotates annually due to its proximity to the DSA. Additional brucellosis testing occurs opportunistically, particularly when IDFG is organizing and implementing controlled or depredation hunts in winter when the potential for elk-cattle interactions is elevated.

During this reporting period kits were not sent to controlled or general season hunters in the Southeast Region. However, depredation hunters and those issued kill permits in the southeast region were provided with sampling kits when possible. A technician was hired during this reporting period to collect samples from these hunts, which increased our sampling rate. No seropositive individuals were detected

The IDFG recently revised its chronic wasting disease (CWD) surveillance strategy. Because CWD has a higher probability of being detected in deer, the primary focus of the new surveillance strategy is focused on this species. However, any mortality from elk displaying symptoms (i.e. suspect animals) of CWD is submitted for testing.

Management Discussion

Controlled elk tags were increased for this reporting period after being stable for the previous 5 years. The number of general season elk hunters also increased. A means of estimating elk

numbers and population change (recruitment) would help in determining appropriate tag numbers and types of hunting to facilitate achieving population objectives. In recent years, Diamond Creek A Tags have sold out very quickly, and it subjectively seems that new hunters are moving to the Bannock Zone based on phone calls requesting information.

Elk Zone

Bannock (GMU 70, 71, 72, 73, 73A, 74)

3-Year Averages (2017-2019)

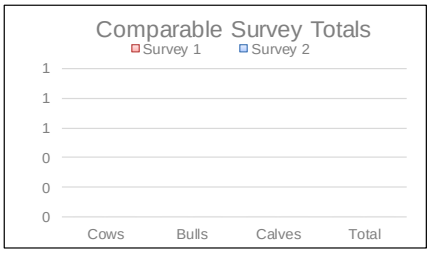
Hunters	1,940	Antlered	196
Hunter Days	14,521	Antlerless	270
Success	24%	% ≥6 Point	61%
Harvest	466		

Zone Characteristics

Square Miles	3,742
% Public Land	32%
Land Type	Rangeland Agriculture

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	ND						
Bulls per 100 Cows							



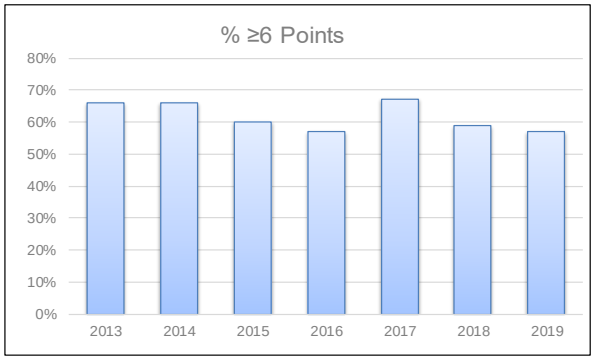
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
	ND				0					0
Comparable Surveys Total		0	0	0	0		0	0	0	0
Per 100 Cows										

Note: ND = no survey data available.

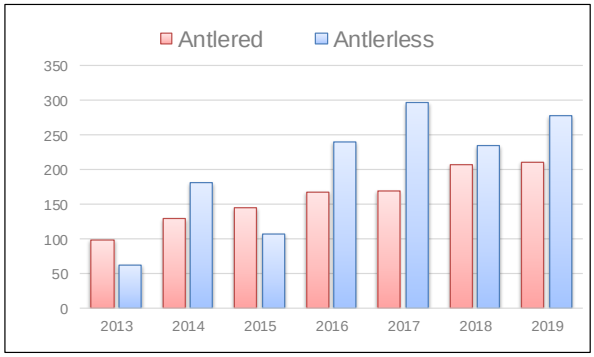
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	60%	50%
Cow Survival	-	-	-	-	-	-	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,189	1,604	1,215	1,313	1,494	1,708	1,896
Hunter Days	8,461	10,885	9,218	10,918	11,768	13,576	14,730
Antlered	39	74	63	59	73	108	108
Antlerless	61	181	105	240	297	235	275
Harvest	100	255	168	299	370	343	383
Success Rate	8%	16%	14%	23%	25%	20%	20%
% ≥6	77%	68%	54%	46%	58%	56%	49%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	214	210	225	219	228	221	274
Hunter Days	1,043	971	1,152	1,114	1,044	1,081	1,363
Antlered	59	55	83	108	96	100	103
Antlerless	2	1	3	0	1	0	3
Harvest	61	56	86	108	97	100	106
Success Rate	29%	27%	38%	49%	43%	45%	39%
% ≥6	59%	64%	64%	63%	74%	62%	66%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,403	1,814	1,440	1,532	1,722	1,929	2,170
Hunter Days	9,504	11,856	10,370	12,032	12,812	14,657	16,093
Antlered	98	129	146	167	169	208	211
Antlerless	63	182	108	240	298	235	278
Harvest	161	311	254	407	467	443	489
Success Rate	11%	17%	18%	27%	27%	23%	23%
% ≥6	66%	66%	60%	57%	67%	59%	57%



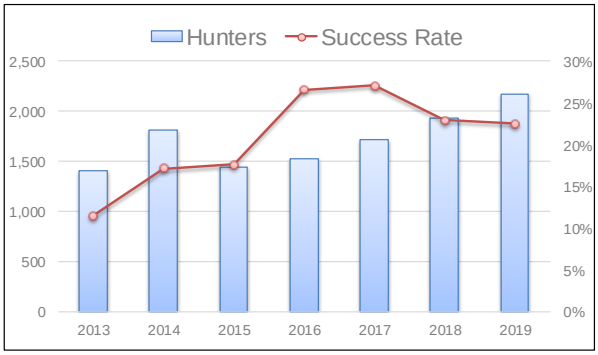


Figure 22. Bannock Zone Elk Status and Objectives.

Diamond Creek Zone (GMUs 66A, 76)

Historical Background

The elk population in the Diamond Creek Zone has increased dramatically from that described in historical records. Accounts of trappers through this area in the mid-1800s suggest that although elk were common, bison, and bighorn sheep were far more numerous. Undoubtedly, the unregulated harvest of the late 1800s and early 1900s reduced populations to relatively low levels. By 1952, elk were believed to be numerous enough to warrant the first hunting season with 250 tags for either-sex elk in GMUs 66, 66A, and 69. An aerial survey of GMU 76 during February 1952 resulted in 193 elk observed with a total population estimate of 230. Elk in GMU 66A are primarily migratory and winter with elk in GMUs 66 and 69. The first hunt in GMU 76 began in 1964 with 75 either-sex tags.

As the elk population grew, so did hunting opportunity. Although this zone has primarily been managed via controlled hunt tags, several general hunting seasons have occurred since regulated harvest began. Between 1955 and 1959, general hunts were held in GMU 66A, varying between a three-day antlered-only to a 10-day either-sex season. Again in 1968 and 1969, nine-day antlered-only general seasons were offered. The last general any-weapon hunting opportunity in GMU 66A occurred in 1975 with a three-day antlered-only season. Since that time, GMUs 66A and 76 have had a myriad of controlled hunts and varying tag levels along with a general either-sex archery season. Extra antlerless tags were used beginning in 2005 to address public safety and depredation concerns. These hunts occurred in December and January on private lands, but following an aerial survey in 2013, extra tags were eliminated. Most recently, during the 2016–2017 seasons, controlled and extra antlerless muzzleloader only opportunities on private lands were added to address increasing depredation concerns.

In 2009, archery hunters were reduced from an average of 2,100 per year to a fixed number of 1,836 per year, with 40% of these tags allocated to non-residents. At the same time, controlled antlerless tags were reduced and split between GMUs. In 2013, the non-resident allocations on the capped archery tags were reduced from 40% to 35%. Lastly, for the 2019 harvest season, the non-resident allocation was reduced to 25%.

Management Objectives

Management direction and strategies for elk in Idaho are identified in the 2014-2024 Elk Management Plan. Elk abundance and demographic data have been collected approximately every 6 years. Below are selected Directions and Objectives for the Diamond Creek elk zone from the Elk Management Plan:

- By 2022, reduce depredation and baiting/feeding operations by 15%
- By 2018, identify and implement strategies to protect important elk linkage corridors
- Minimize the influence of disease as a limiting factor in elk populations
- Recommend or support projects that would treat and/or improve an average >1,000 acres of summer-fall-winter habitat annually
- Promote awareness of impacts to elk calving habitat from phosphate mining and transmission line construction
- Cooperate with USFS to assure Elk Valley Marsh grazing management optimizes potential habitat benefits for elk and other wildlife

- Develop a map of seasonal habitat use with priorities for elk habitat improvement projects by 2016
- Purchase Walker property (760a) and BLM parcel (80a) associated with Georgetown WMA
- Reseed 20a of Georgetown Summit WMA IDL lease to forage mix by 2020

Habitat Management and Monitoring

Diamond Creek Zone represents some of the most productive habitat found in southeastern Idaho. Three main vegetation types predominate: sagebrush-grassland, aspen, and conifer. Past habitat-use research indicates that aspen habitat types are highly preferred, especially during non-snow periods. Mahogany and mountain brush communities are also abundant and likely important to the elk population. Fire suppression efforts and intensive livestock grazing in the past have resulted in increased shrub and conifer cover with a reduction in the aspen component since historical times.

Approximately 47% of the land in Diamond Creek Zone is managed by the US Forest Service. Other notable public land managers include the Bureau of Land Management (6%) and the State of Idaho (4%). Approximately 36% of the Diamond Creek Zone is privately owned. The private land is generally used for rangeland pasture and small grain and hay production, although some landowners are managing their properties specifically for wildlife. Depredation complaints have generally increased over the last decade. The predominate land uses of the publicly-owned ground include livestock grazing, timber management, recreation, and phosphate mining. Approximately 35% of the known U.S. reserves of phosphate ore are located in Diamond Creek Zone.

The Diamond Creek Zone has rich veins of elemental phosphate within its boundaries. This has been and continues to be a habitat concern given the number of forested tracks converted into grassland, and the number of mines in operation and that will be created over the next 30 years. Additionally, the impact of elk feeding on these sites with high selenium concentrations in the forage is not entirely understood.

Biological Objectives

Current winter population objectives (Figure 23) for Diamond Creek Zone are outlined in Idaho's elk management plan (2014–2024). Objectives for Diamond Creek Zone (Figure 23) are to maintain a wintering elk population of 1,500–2,200 cows and 488–715 bulls, including 315–462 adult bulls. Limited amounts of suitable winter range in GMU 66A preclude significant increases in the wintering population for that GMU. The most recent aerial survey (2018) indicates a significant increase in this elk population, indicating that this population is over objective for both cows and bulls. Calf:cow ratios (36:100 in 2018), as measured during aerial surveys, indicate a healthy, productive herd in the Diamond Creek Zone. High calf:cow ratios are consistent with growing populations that are not heavily influenced by density-dependent factors. Given these high levels of recruitment and increases in total population, relatively high harvest rates of antlerless elk are necessary to stabilize populations. Additionally, liberal bull harvest rates can be sustained by high recruitment rates.

Capture, Radio-mark, and or Telemetry

Elk in Diamond Creek zone have periodically been monitored using collar data from adult females and 6 month old calves to better understand specific aspects of these populations. Biological information is then collected from these individuals to answer questions related to survival, movement, body condition, pregnancy, and habitat use. These data provide managers with valuable information to better inform management decisions.

During the 2019–2020 reporting period, the IDFG monitored 35 adult female elk and 30 calf elk from the Diamond Creek Zone. Apparent overwinter survival was 93% for adult females and 50% for calves. There were no adult males collared in the Diamond Creek Zone during this reporting period.

Population Surveys and Monitoring

The first sightability survey for elk in Diamond Creek Zone occurred in 2005. Additional repeated surveys occurred in 2009, 2013, and most recently in 2018. These surveys are conducted the same year as Tex Creek Elk Zone (GMUs 66 and 69) because of migrations across zones. Future plans include the continuation of Zone-wide sightability surveys, as specified by the current elk management plan.

In January 2018, staff completed a sightability survey in Diamond Creek Zone. The population estimate was 4,251 elk, a significant increase from the estimated 2,352 elk during the 2013 survey (population estimate was 2,220 in 2009 and 3,655 in 2005). The calf:cow:bull ratios in 2018 were 36:100:36.

Inter-specific Issues

Although both livestock and elk numbers within Diamond Creek Zone are high, there appears to be little concern by livestock operators of competition for grass. However, localized concerns do exist for livestock over utilization during dry years with drought conditions and on ridge-tops (primarily sheep utilization) used by wintering elk.

During the mid-1900s, GMU 76 supported a high population of mule deer with relatively few elk. Important mule deer wintering areas included Brown’s Canyon to Yellowjacket Creek, east of Henry, Stump Creek, Crow Creek, and the Soda Front from Wood Canyon to Dingle. Today, these winter ranges are predominately occupied by elk. It is unknown whether habitat changes and/or competition (resource or social intolerance) have led to this change. However, there appear to be areas with suitable deer winter range vegetation that are only occupied by elk.

Predation Issues

Likely predators of elk in Diamond Creek Zone include black bears and mountain lions. Black bears occur at relatively low densities, only prey on very young calves, and likely have little to no effect on elk populations in Diamond Creek. Mountain lions are believed to have increased during the last 30 years. In general, recruitment rates and other elk population parameters suggest the mountain lion population is not having a significant effect on elk. However, cause-specific mortality data from elk calves collared this past winter demonstrate that mountain lions predation can result in relatively high mortality among elk calves. Coyotes are common but not believed to

be a significant predator on elk. There are no known wolf packs in the zone, however wolves have been observed in the zone and public wolf observation reports are not uncommon.

Winter Feeding and Depredation

Emergency supplemental feeding of elk has occurred sporadically during winters since 1981 in Diamond Creek Zone. Numbers of animals fed have ranged from 200–900. Recurrent emergency feeding areas include near Freedom, Thomas Fork Valley, Crow Creek, Stump Creek, Banks Valley and Bischoff Canyon. Additionally, it is believed that some elk summering in this zone migrate to annual winter feed grounds in adjacent Wyoming. During the severe 2016–2017 winter there were 5 feed sites authorized for elk that served about 900 animals. Deep crusted snow, public safety, and depredation concerns were responsible for these feed sites being authorized. Most recently, during the 2019-2020 winter, elk were fed near Bennington to prevent further elk-cattle interactions.

Depredations occur in summer, fall, and winter and mainly impact alfalfa, with some damage occurring on grain fields by trampling and bedding. During this reporting period night hazing, zon guns, pyrotechnics, depredation hunts, landowner permission hunts and kill permits were used to address depredation problems. Most landowners in chronic depredation areas have erected permanent stack yards to protect stored crops, with more being constructed each year. During this reporting period eight claims were processed for elk depredations in the Diamond Creek Zone. The area around Geneva represents an area of chronic depredations and during this reporting period a graduate student conducted work in this area to better understand the effectiveness of temporary electric fencing for reducing depredations. This data is currently being analyzed and should be available during the next reporting period.

Hunting and Harvest Characteristics

Total harvest in the Diamond Creek Zone in 2019 was estimated at 1,072 elk based on harvest reporting. This is very similar to harvest from 2018 (1,082). This harvest was split relatively evenly between antlered (532) and antlerless (540) harvest. The majority of antlerless harvest (480) occurred during the controlled hunts (60 were harvested during the general archery season in 2019). This is very similar to 2018 when 463 antlerless elk were harvested on controlled hunts (131 were harvested during the general archery season in 2018). Antlered harvest during the general archery hunt totaled 311 individuals, very similar to the 2016-2018 average of 294. Antlered harvest likely increased on controlled hunts during this reporting period as a result of tag increases implemented during the prior season setting process. 221 antlered elk were harvested on controlled tags in 2019, compared to the 2016-2018 average of 174. Of the antlered harvest, 43% and 62% of the general archery and controlled any-weapon harvest, respectively, had 6 points or more on one side. During 2019, 3,471 sportsmen hunted elk in the diamond creek zone. This is an increase from 3,091 and is due to increases in available controlled hunt tags.

Disease Monitoring

The very northeastern corner of GMU 66A is within Idaho's Designated Surveillance Area (DSA) for brucellosis. The Diamond Creek Zone is within one of 3 areas with focused brucellosis surveillance that rotates annually. Additional brucellosis testing occurs opportunistically, particularly when IDFG is organizing and implementing winter controlled,

depredation hunts, kill permits, or when the potential for elk cattle interactions is elevated. During this reporting period kits were sent to a subset of hunters participating in the late extra antlerless muzzleloader hunt. Additionally, IDFG hired a technician specifically to assist hunters or landowners in sampling harvested elk. This additional position increased the number of samples collected as very few kits given to hunters are generally returned. No seropositive individuals were sampled during this reporting period.

The IDFG recently revised its chronic wasting disease (CWD) surveillance strategy. Because deer are the most likely cervid to contract the disease, much of the new surveillance strategy is focused on this species. However, any mortality from collared elk or elk displaying symptoms (i.e. suspect animals) of CWD is submitted for testing.

Management Discussion

Recently (during the mid to late 2000s), observed changes in winter distribution of elk in the Diamond Creek Zone has occurred, and reasons for these shifts are poorly understood. Possible explanations include a population that has reached habitat fill, habitat change resulting in less suitable winter range, and/or random behavioral response to differing environmental conditions. A better understanding of the processes involved in winter range selection would aid in a better ecological understanding of elk in this zone and lead to more responsive management actions.

The Diamond Creek Zone continues to be an extremely popular area for archery hunting because of higher than average hunter success rates and elevated percentages of 6+ points in the harvest. Currently, there is growing interest in the effectiveness of archers as technological advancements are made. It will be essential that IDFG continues to obtain accurate and timely harvest estimates in Diamond Creek for effective management and maintaining adequate opportunities for both archery and any-weapon sportsmen.

Elk Zone

Diamond Creek (GMU 66A, 76)

3-Year Averages (2017-2019)

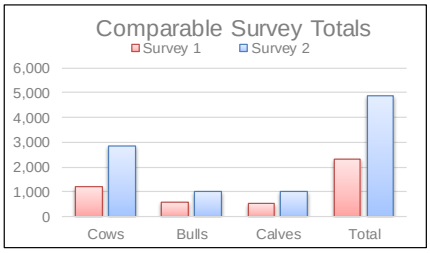
Hunters	3,211	Antlered	479
Hunter Days	23,408	Antlerless	548
Success	32%	% ≥6 Point	52%
Harvest	1,028		

Zone Characteristics

Square Miles	1,659
% Public Land	60%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2018	2,862	1,018	708	1,500-2,200	488-715	315-462
Bulls per 100 Cows			36	25		30-35	18-22

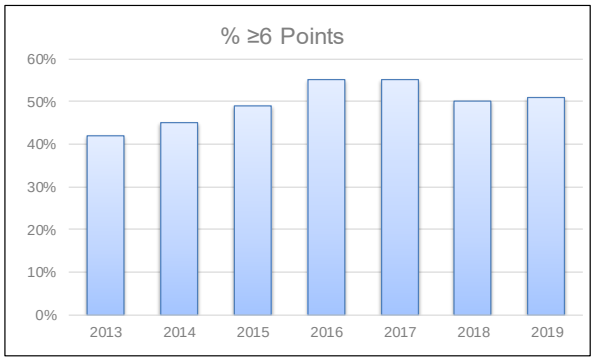


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
66A, 76	2013	1,218	583	534	2,335	2018	2,862	1,018	1,017	4,897
Comparable Surveys Total		1,218	583	534	2,335		2,862	1,018	1,017	4,897
Per 100 Cows			48	44				36	36	

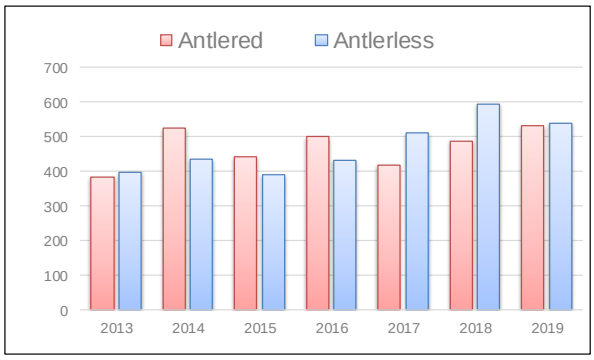
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	83%	40%	75%	86%	44%
Cow Survival	-	-	96%	93%	100%	94%	90%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,704	2,029	1,585	1,600	1,697	1,718	1,772
Hunter Days	16,000	18,507	14,786	15,324	15,040	16,517	16,939
Antlered	241	337	252	312	270	301	311
Antlerless	97	105	59	109	67	131	60
Harvest	338	442	311	421	337	432	371
Success Rate	20%	22%	20%	26%	20%	25%	21%
% ≥6	41%	41%	50%	52%	52%	52%	43%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,247	1,239	1,273	1,299	1,375	1,373	1,699
Hunter Days	6,819	6,470	6,527	6,424	7,143	6,763	7,823
Antlered	142	187	190	188	148	187	221
Antlerless	299	332	331	324	444	463	480
Harvest	441	519	521	512	592	650	701
Success Rate	35%	42%	41%	39%	43%	47%	41%
% ≥6	44%	51%	48%	61%	61%	48%	62%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,951	3,268	2,858	2,899	3,072	3,091	3,471
Hunter Days	22,819	24,977	21,313	21,748	22,183	23,280	24,762
Antlered	383	524	442	500	418	488	532
Antlerless	396	437	390	433	511	594	540
Harvest	779	961	832	933	929	1,082	1,072
Success Rate	26%	29%	29%	32%	30%	35%	31%
% ≥6	42%	45%	49%	55%	55%	50%	51%



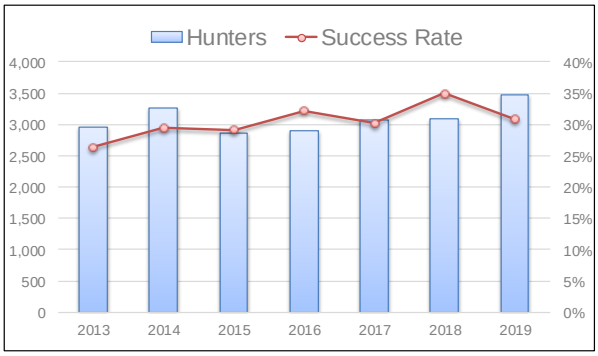


Figure 23. Diamond Creek Zone Elk Status and Objectives.

Bear River Zone (GMUs 75, 77, 78)

Historical Background

The elk population in the Bear River Zone has increased substantially from that recorded in historical records. Accounts of trappers through this area in the mid-1800s suggest that although elk were common, bison and bighorn sheep were far more numerous. Undoubtedly, the unregulated harvest of the late 1800s and early 1900s reduced populations to relatively low levels.

Elk hunting in this zone began in the 1940s with controlled either-sex hunts, was then closed for several years, and reopened again in 1956 with general hunts for either-sex. GMU 75 was closed on and off through the 1960s. From 1968 through 1975, all GMUs were open to general either-sex hunting. Starting in 1976 through the present, all GMUs have been open for general antlered-only opportunity. In 1984 and 1985, a few either-sex tags were offered along with the antlered-only hunt. Since 1986, antlerless-only tags have generally increased.

In 2013 the general Bear River Zone B tag (general any weapon bull hunt) was capped at a quota of 550 tags. These tags were available to residents and non-residents on a first come first serve basis. For comparison, in 2012 there were 646 B tags sold, accounting for 132 bulls harvested.

Prior to the late 1970s, the vast majority of elk that summered in this zone wintered in Utah. Since that time, elk wintering in this zone have dramatically increased.

Management Objectives

Management direction and strategies for elk in Idaho are identified in the 2014-2024 Elk Management Plan. Elk abundance and demographic data have been collected approximately every 7 years. Below are directions, objectives, and strategies for the Bear River Elk Zone from the Elk Management Plan:

Management Direction	Performance Objective	Strategy
Implement proactive measures to reduce and minimize elk depredations	By 2022 reduce depredation and baiting-feeding operations by 15%	- Expand the lure crop program to keep elk in acceptable areas - Provide permanent stack yard fencing to protect haystacks
Improve key summer, winter, and transitional habitats on public and private lands that provide for elk populations to meet statewide objectives		

Habitat Management and Monitoring

The Bear River Zone represents the moderately productive habitats/vegetation communities in southeastern Idaho. Four main vegetation types predominate: sagebrush-grassland, aspen, maple, and conifer. However, mahogany, juniper, and mountain brush communities are also present and

likely important to elk populations. Past habitat-use research indicates that aspen habitat types are highly preferred, especially during non-snow periods. Fire suppression efforts and/or intensive livestock grazing in the past have resulted in increased shrub and conifer cover and a reduction in aspen and associated understory communities. The extensive conifer cover across much of the Bear River Zone creates excellent security cover for elk, but likely decreases availability of preferred forage

The USFS administers the majority of public ground (49% of total area) in this zone. Predominant land uses of public ground include livestock grazing and recreation. Private ground makes up most of the remaining area and is used primarily for rangeland pasture and small grain and hay production. Much of the potential elk winter range is privately held or adjacent to agriculture and depredation concerns have been significant. Several stackyards have been installed in order to alleviate some of the depredation concerns. The increasing number of rural subdivisions and small-acreage home-sites in this zone have led to conflicts with wintering elk and a reduction in available winter range. The loss of winter range and conflicts with producers are the primary considerations limiting elk populations in the Bear River Zone. Increased use of ATVs and increases in road development will raise vulnerability to harvest in this zone.

Biological Objectives

Current winter population objectives (Figure 24) for the Bear River Zone are outlined in Idaho's Elk Management Plan (2014–2024). These objectives are to maintain a wintering elk population of 400–700 cows and 84–147 bulls, including 48–84 adult bulls. Although this zone could support a higher wintering population, it would be at the expense of elevated depredation concerns. The most recent aerial survey (2017) indicates that the population has increased since 2010 with substantial increases in total and adult bulls. Calf:cow ratios were 44:100 during the most recent survey (January 2017). A rate of approximately 25 calves per 100 cows during early winter is necessary to maintain elk populations and allow moderate levels of harvest. The 2017 aerial survey estimates and calf:cow ratios indicate that the Bear River elk herd is likely increasing. The reduction of the any-weapon B tags has likely resulted in increased bull numbers throughout the zone.

Capture, Radio-mark, and or Telemetry

In January 2018, Utah Division of Natural Resources (DNR) captured 14 adult female elk in the Bear River Zone as part of a project between Idaho, Utah, and Wyoming to understand elk movements and disease risk. Each elk was fitted with a GPS collar to monitor movement and survival. This is the first GPS collar data in the Bear River Zone and will help managers understand interstate movements of this elk population.

Population Surveys and Monitoring

The first sightability survey for elk in the Bear River Zone occurred in 2006. Additional repeated surveys occurred in 2010 and 2017. Future plans include the continuation of Zone-wide sightability surveys, as specified by the current elk management plan.

The January 2017 sightability survey of the Bear River Zone resulted in an estimate of 1,326 elk. This represents a significant increase from the estimate of 909 from the 2010 survey and 699

from the 2006 survey. The calf:cow:bull ratios documented during the 2017 survey were 44:100:48. Total bulls counted during these surveys increased from less than 100 in 2006 and 2010 to 325 in 2017.

Inter-specific Issues

The elk population in this zone has caused conflict with several livestock operations in the foothills. The main sources of concern are damage to fences and loss of hay, grain, and private rangeland forage.

The Bear River Zone is also provides highly productive mule deer habitat. However, recent habitat changes may be favoring elk. Although these GMUs do show some niche separation during winter between elk and deer, recent observations indicate that elk are beginning to occupy suitable deer winter range.

Predation Issues

Potential predators of elk in the Bear River Zone include black bears and mountain lions. The black bear population is extremely low. Mountain lions are believed to have increased during the last 30 years. However, current recruitment rates and other elk population parameters suggest this increased mountain lion population is not having a significant effect. Coyotes are common but not believed to be a significant predator on elk. Occasional wolf observation reports in the zone do occur, but there are no known established wolf packs.

Winter Feeding and Depredation

Emergency winter feeding of elk only occurs periodically in this zone. An unknown but substantial number of elk are believed to migrate and winter in Utah, with some known to use the feeding operation at Hardware Ranch. The winter of 2019–2020 was moderate, resulting in some wintertime depredation (mostly in GMU 75). During this reporting period night hazing, zon guns, pyrotechnics, depredation hunts, landowner permission hunts and kill permits were used to address depredation problems. Fewer than 5 claims were processed during this reporting period. Springtime elk-cattle interactions occurred near Grace and Nounan. Staff completed multiple permanent stack yards and paneled haystacks in our chronic depredation areas to keep elk from getting into haystacks at these locations.

Hunting and Harvest Characteristics

Total harvest in the Bear River Zone in 2019 was estimated at 318 elk based on harvest reports. This is a decrease in harvest from 2018 when 398 elk were harvested. This is the lowest total harvest in the zone since 2015. Antlerless harvest during this period totaled 167, a slight decrease from 180 harvested in 2018. Antlered harvest totaled 152 (51 on the A Tag, 87 on the B tag, and 14 on the controlled hunts). This is a decrease from the 218 bulls harvested on antlered-only hunts in 2018 (most of this decrease was during the general hunts). Of the individuals harvested on general hunts 33% had 6-points or more on one side. In contrast, 78% of the antlered individuals harvested on controlled hunts had more than 6-points on one side. 1,598 hunters participated in the Bear River Zone general hunt in 2019, a decrease from 1,710 during 2018.

Disease Monitoring

The Bear River Zone is outside of Idaho's Designated Surveillance Area (DSA) for brucellosis. However, the Bear River Zone is within 1 of 3 areas with focused brucellosis surveillance that rotates annually due to its proximity to the DSA. Additional brucellosis testing occurs opportunistically, particularly when IDFG is organizing and implementing winter controlled or depredation hunts when the potential for elk-cattle interactions is elevated.

During this reporting period kits were not sent to controlled or general season hunters in the Southeast Region. However, depredation hunters and landowners issued kill permits in the southeast region were provided with sampling kits when possible. Very few of these kits were returned. A technician was also hired during this reporting period to collect samples from these hunts, which increased our sampling rate. No seropositive individuals were detected.

The IDFG recently revised its chronic wasting disease (CWD) surveillance strategy. Because CWD has a higher probability of being detected in deer, the primary focus of the new surveillance strategy is focused on this species. However, any mortality from collared elk or elk displaying symptoms (i.e. suspect animals) of CWD is submitted for testing.

Management Discussion

An unknown but substantial number of elk are believed to migrate and winter in Utah. A better understanding of these numbers would benefit management recommendations.

Elk Zone

Bear River (GMU 75, 77, 78)

3-Year Averages (2017-2019)

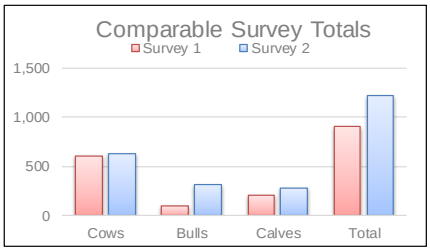
Hunters	1,811	Antlered	190
Hunter Days	12,317	Antlerless	184
Success	21%	% ≥6 Point	42%
Harvest	374		

Zone Characteristics

Square Miles	887
% Public Land	52%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2017	630	314	183	400-700	84-147	48-84
Bulls per 100 Cows			50	29		25-29	14-18

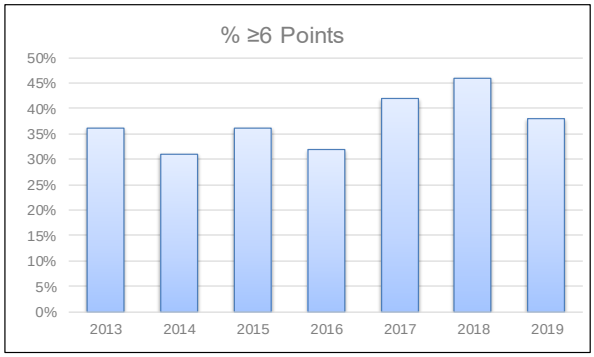


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
75, 77, 78	2010	606	98	205	909	2017	630	314	278	1,222
Comparable Surveys Total		606	98	205	909		630	314	278	1,222
Per 100 Cows			16	34				50	44	

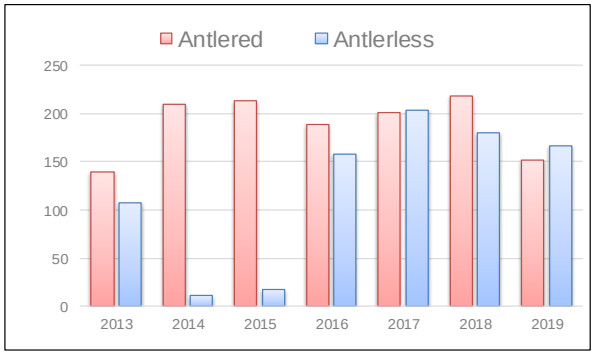
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	-	-	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	905	1,039	1,213	1,211	1,214	1,210	1,132
Hunter Days	7,661	8,607	10,910	9,701	9,728	9,833	9,270
Antlered	38	89	112	69	85	89	51
Antlerless	102	11	15	148	182	180	155
Harvest	140	100	127	217	267	269	206
Success Rate	15%	10%	10%	18%	22%	22%	18%
% ≥6	24%	27%	3%	32%	24%	41%	47%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	445	518	465	479	796	500	466
Hunter Days	2,290	2,834	2,475	2,286	2,840	2,468	2,192
Antlered	89	111	79	104	96	116	87
Antlerless	2	0	0	8	3	0	3
Harvest	91	111	79	112	99	116	90
Success Rate	20%	21%	17%	23%	12%	23%	19%
% ≥6	36%	34%	46%	31%	52%	47%	25%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	40	24	27	26	52	24	38
Hunter Days	285	127	113	180	254	162	204
Antlered	13	10	22	16	20	13	14
Antlerless	3	0	3	2	19	0	9
Harvest	16	10	25	18	39	13	23
Success Rate	40%	42%	93%	69%	75%	54%	61%
% ≥6	62%	30%	9%	45%	78%	71%	78%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,390	1,581	1,705	1,716	2,062	1,734	1,636
Hunter Days	10,236	11,568	13,498	12,167	12,822	12,463	11,666
Antlered	140	210	213	189	201	218	152
Antlerless	107	11	18	158	204	180	167
Harvest	247	221	231	347	405	398	319
Success Rate	18%	14%	14%	20%	20%	23%	19%
% ≥6	36%	31%	36%	32%	42%	46%	38%



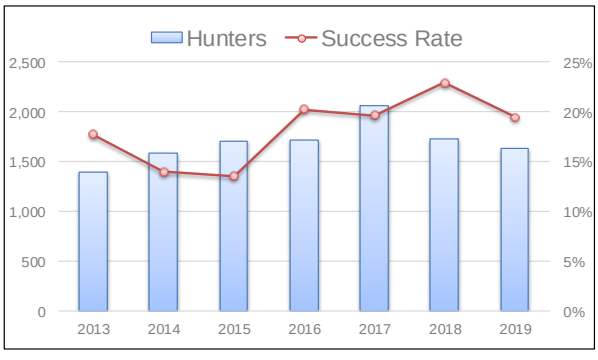


Figure 24. Bear River Zone Elk Status and Objectives.

Island Park Zone (GMUs 60, 60A, 61, 62, 62A)

Historical Background

In 2014, the Teton Zone was dissolved and GMU 62 was added to the Island Park Zone. Elk have been present, in varying numbers, in portions of the Island Park Zone throughout recorded history. There has been a general elk season in all or part of Fremont County since 1882. This undoubtedly is the longest running general hunting opportunity in the state. In GMU 62, general either-sex hunting was allowed until the mid-1970s. During much of the early twentieth century, these hunts were based upon elk populations summering in Yellowstone National Park and Wyoming.

In the late 1940s, elk were first observed wintering on high desert habitats of GMU 60A, with 582 wintering elk recorded in 1952. These wintering populations varied from about 700 to 1,200 elk until the mid-1970s, at which time the elimination of general either-sex elk hunting resulted in a rapidly increasing winter population. The population peaked in the winter of 1999–2000, when 4,134 elk were estimated on Sand Creek winter range. In GMU 62, the elk population was relatively stable through the 1980s with 30–40 animals wintering along Teton River in the basin, 40–50 animals being fed at a ranch on Conant Creek, and approximately 100 elk wintering in and adjacent to Teton River and its tributaries north of State Highway 33.

General bull hunting was restricted to spikes-only in 1991 in response to an accelerated timber harvest program on Targhee National Forest that resulted in poor bull escapement and low bull:cow ratios. Antlerless elk hunting opportunity has been managed through controlled hunts and, beginning in 1993, tags have been offered for any-bull hunting opportunity throughout the Island Park Zone.

Management Objectives

Objectives for the Island Park Zone (Figure 25) are to maintain a wintering elk population of 1,200–1,800 cows and 400–575 bulls, including 250–375 adult bulls. Proposed population objectives for Island Park Zone balance hunter opportunity and hunter success with crop and property damage on agricultural lands. The aerial survey conducted in 2020 indicated elk wintering on the Sand Creek winter range in GMU 60A and 62 are above objective for cows and bulls. In the past, obtaining adequate harvest on this population was difficult due to its migratory nature and the fact that significant portions of the herd spend the fall in Yellowstone National Park and Harriman State Park where they are safe from harvest. During the early 2000's, weather during hunting season was adequate enough to facilitate a good harvest, and we likely harvested the population more heavily than planned. Bull:cow ratios are difficult to measure for the hunted portion of the population, again, because they are inflated by those animals which avoid hunting. Additionally, a portion of the harvestable fall elk population in the Island Park Zone (particularly in GMU 61) migrates to winter ranges in Montana, and therefore is not counted as part of the Sand Creek sightability surveys in GMU 60A. Radio collar information suggests that well over half of the elk in the old Teton Zone (GMU 62) spend spring, summer, and fall in Wyoming or Yellowstone National Park. They often do not enter Idaho until after the general hunting seasons are over. This presents a difficult challenge for management. These migratory elk provide little opportunity for Idaho hunters. The Island Park Zone currently provides the widest array of

hunting opportunity available, including archery, centerfire, and muzzleloader seasons; early and late hunting; and controlled any-bull and either-sex hunts.

Habitat Management and Monitoring

Most elk summer range in the Island Park Zone occurs on USFS lands and is dominated by gentle topography and lodgepole pine communities. Douglas fir stands are common on sloped sites. Timber management practices from 1970–1990 severely altered habitats in the Island Park Zone. In the mid-1970s, approximately two-thirds to three-fourths of the merchantable lodgepole pine stands on the Targhee National Forest were classified as dead or dying due to a mountain pine beetle infestation. Consequently, the USFS dramatically accelerated timber harvest. The result was an extensive network of roads and clear-cuts, which reduced elk habitat effectiveness and greatly increased elk vulnerability. Implementation of road and area closures in some areas and increasing security cover from continued forest regeneration will continue to help offset some of these effects into the future.

The Sand Creek winter range supports a vegetative complex typical of high-desert shrub-steppe dominated by sagebrush. Bitterbrush and chokecherry are prominent on areas of stabilized sand. Land ownership consists of a checkerboard of state, BLM, and private property. Cooperative use-trade agreements have benefited the elk population. A large area of winter range in the western portion of GMU 62 has been converted to agriculture. Some of this land is now enrolled in the CRP program. Elk winter range was lost to the construction and subsequent failure of the Teton Dam, although the greatest habitat loss associated with that event was deer habitat. Agricultural encroachment and suburban developments continue to threaten winter range in the Island Park Zone.

There are a number of domestic elk ranching and, specifically, “shooter bull” operations in this area. These operations pose several threats to wild elk including loss of available habitat behind fences, obstruction of migration routes with fences, possible disease sources, and possible genetic introgression from escapees. In 2003, a 5,000-acre domestic elk operation was constructed on South Juniper Hill. This operation is on the fringe of historic elk winter habitat but has attracted elk to the area because of domestic elk inside the fence and put elk on top of historic deer winter range next to the fence. In 2005, construction was completed on a new pen on Big Grassy, which is the core of the traditional elk winter range. This pen is estimated to enclose 16 square miles of prime elk and moose winter habitat. An unknown number of domestic elk were placed in the pen in the middle of 2,000–3,000 wintering wild elk. These pens reduce potential carrying capacity of the winter range, and could pose other problems for the Island Park Elk herd.

The Grassy Fire in summer of 2018 consumed a large portion of the Sand Creek winter range. This was a lightning strike caused fire. Nearly 100,000 acres burned including the areas west of Red Road to Camas Creek, north of Grassy Ridge road to A2 road out of Dubois. This area is terminal winter range for elk, mule deer and moose. Rehabilitation on BLM and Idaho State Lands was implemented and long term monitoring sites were established in the impacted area.

Biological Objectives

Until recently, winter elk populations had been increasing steadily in Island Park Zone since they were first noticed on the Sand Creek Desert in the late 1940s. A total of 582 were recorded in 1952. This total climbed steadily to the 4,134 elk counted in 2000 and then decreased to 3,246 in 2002 and 1,748 in 2006. Significant reductions in hunter opportunity (both to the general season and controlled hunts) were made after the 2006 survey. The population has apparently responded to these changes, as there were 3,271 elk estimated during the 2016 sightability survey. An additional 575 elk were counted in GMUs 62 and 62A for a total of 3,846 elk in the Island Park zone. The aerial survey conducted in early 2020 indicated a continuation of this positive trend with an estimated 4,653 total animals in the Island Park Zone.

Recruitment measured through sightability surveys indicates the moderately productive nature of the herd, with calf:cow ratios typically in the 30–35 calves:100 cows range. Bull:cow ratios have rebounded markedly since the implementation of spike-only general hunting in 1991. Bulls:100 cows ratios have ranged from 40–68. It should be noted, however, that these totals are buttressed by an unknown segment of the population that spends summer and fall in Harriman State Park and Yellowstone National Park. These animals are largely un-harvested, being subjected to hunting pressure only while migrating to winter range.

There are 2 groups of elk that have been historically fed in GMU 62. The IDFG has undergone many strategies to move or redistribute these elk through hunting. These animals have been fed during winter on private ranches at Teepee Creek and Conant Creek. Both feed grounds have been eliminated. As both a brucellosis control method and to comply with Commission policy, annual feeding operations should be eliminated. These feed grounds likely short-stopped elk that historically migrated further to the west during the winter. These elk summer in Wyoming and in the Bechler Meadows area of Yellowstone National Park.

An unknown segment of the harvestable fall population, primarily in GMU 61, migrates to winter ranges in Montana. These animals are likely available for harvest during at least a portion of the Island Park seasons, but are not in Idaho during sightability surveys. During spring 2009, IDFG initiated a research project designed to assess newborn elk calf survival, document seasonal movements, and determine wintering destination for elk summering in GMU 61. The first year's calf capture effort (2009) was focused around Henry's Lake in GMU 61. Thirty-eight calves were collared around Henry's Lake, as far west as Icehouse Creek. Early calf survival (birth through 3 months of age) was 90% for the collar calves. Survival of calves through April of 2010 was 83%. Four calves died during monitoring: 1 mountain lion predation, 1 probable black bear predation, and 2 of unknown cause (i.e., not enough evidence to determine cause). Most (>90%) of the collared calves remained in Idaho during all of the Island Park Zone elk hunting seasons, while 2 calves ventured into Montana during the latter part of the general season. Of the 10 calves that retained their collars throughout the winter migration, 6 migrated to winter ranges in Montana (from the ID-MT border to as far north as Moose Creek in the Madison Valley), 3 wintered along the west side of Henry's Lake (Duck Creek), and 1 migrated to the traditional Island Park winter range on the Sand Creek desert (wintered east of Hamer). The calf that migrated to the Sand Creek desert was collared in the east end of the Shotgun Valley (Icehouse Creek), while all of the calves collared around Henry's Lake stayed around the lake or moved to Montana. The second year of the project (2010) was focused in the western

portion of 61 (Centennial Mountains), from Icehouse Creek to I-15. Idaho Department of Fish & Game personnel collared 42 newborn calves in the study area during the spring of 2010, with a good distribution of collared calves from east to west. The movements and survival of these calves was monitored through the spring of 2011, and a final project report was completed during the summer-fall of 2011.

During the winter of 2008–2009, 39 elk were translocated from GMU 74 (near Swan Lake) to winter range in GMU 60A (Egin-Hamer Road). These elk were a repeat depredation problem in GMU 74. All of the elk tested negative for Brucellosis prior to the translocation.

Domestic elk operations located in this zone present a significant risk of impacting wild herds. Many of these operations are "shooter bull"-based with large pens and are within occupied elk range. This leads to significant opportunity for domestics to contact wild elk through the fence or by escape. This presents risk of disease transmission and genetic introgression.

Capture, Radio-mark, and or Telemetry

A total of 26 elk were radio marked in GMU 62 and the west side of GMU 65. The objective of this marking was to gain survival information and detailed migration routes for this elk population.

Population Surveys and Monitoring

In 2016 this zone was surveyed during winter months. Antlered elk were within plan objectives, antlerless elk numbers were above objective, and calf/cow ratios were at 37 calves per 100 cows. This population is performing well.

Inter-specific Issues

Unfortunately, little evidence exists to evaluate the potential relationships between elk, mule deer, and moose in the Island Park Zone. White-tailed deer are scattered throughout the Island Park Zone, mainly along riparian corridors, and appear to be expanding their range within the Zone. Heavy grazing/browsing by deer, elk, and moose may alter Columbian sharp-tailed grouse habitats. There is concern over elk herds establishing winter use in traditional mule deer winter range in Teton Canyon.

Domestic sheep and cattle grazing occur throughout the Island Park Zone which could pose some competitive concerns for elk, especially on winter range during drought years.

Predation Issues

Black bear densities appear to be moderate and stable in the Island Park Zone. Grizzly bear numbers are increasing and their range seems to be expanding westward in the Zone. Mountain lions are relatively rare. Coyotes are common, especially in the winter range portion of Island Park Zone, but are not known to have much impact on elk populations. Wolves introduced by the USFWS in Yellowstone National Park have become established in the Island Park zone, which could affect other predators and this elk population.

Winter Feeding and Depredation

No IDFG-sponsored elk feeding activities occur in the Island Park Zone except under emergency situations. Agricultural encroachment on Sand Creek winter range increases risk of elk depredations on stored crops, especially under adverse winter conditions. Some feeding by private citizens, resulting in the short-stopping of elk, has occurred on Ashton Hill. Observations in GMU 62 during the 2000–2001 aerial survey indicated that most elk in this zone were associated with private feeding operations. Educational efforts need to continue to give non-sanctioned feeders a better understanding of problems associated with artificially fed elk.

During the winter of 2007–2008, approximately 800 mule deer were fed on an emergency basis at Sand Creek WMA. No elk were observed on this feed line during the operation, but elk were observed in the vicinity. During this same winter, most elk in the Teton Valley were concentrated at a IDFG sanctioned bait site along the Teton River (see below). A description of the history of each feed site follows.

Conant Creek - In the late 1950s, a private landowner began feeding approximately 20 elk on upper Conant Creek. Over the years, IDFG has provided this landowner hay to bait the elk away from stored hay and cattle. The number of elk increased and in the interim, IDFG tried to work with the landowner to solve the problem with options other than feeding. All such efforts were rejected and the landowner had successfully enlisted the support of politicians and sportsmen in continuing the feeding. Things changed in 2002 when the cattle herd tested positive for brucellosis. Since then, the cattle herd has been destroyed, a fence has been built to keep elk out of the feeding grounds, and no elk have been fed there.

Teepee Creek (Felt) - A landowner on Teepee Creek began feeding elk in the early 1990s. There are approximately 150 elk habituated to this operation. The IDFG has provided panels to the landowner to protect haystacks but has not provided any feed. During the winter of 2007–2008, a few elk were inadvertently fed in a horse corral but they seemed to disperse from the site later in the season. It is believed this and the Conant Creek operation have short-stopped elk from migrating to winter ranges further west.

During the very end of the winter of 2008–2009, IDFG baited (10–15 bales of hay) a small group of elk (approximately 12) away from Ashton. The elk had been feeding on a haystack and were staying in close proximity to the highway. The baiting was used to move them away from the highway, decreasing the public safety risk. Also during the winter of 2008–2009, approximately 200 elk wintered above the Sand Creek ponds. These elk had essentially become “trapped” in the area as snow accumulated quickly on the desert to the west. The IDFG was poised to supply these elk with supplemental feed if conditions warranted it, but the decision was made that conditions for these elk were satisfactory and the elk were not fed.

During the 2018–2019 winter, IDFG personnel, anticipating depredation issues related to the reduction in winter forage availability due to the Grassy Ridge fire, had stock piled hay. While the emergency feeding was not carried out, elk seemed to shift south and east over the winter, avoiding the burn scar in favor of intact sagebrush habitat.

Portions of the elk that winter in GMU 62 have been on a feed lot in the Chester area since 2015. The IDFG and the owner of the feed lot have been working on reducing depredations and looking at long term solutions.

During the 2019-2020 winter, a group of 50-75 elk was reported mixing with cattle east of Hamer and consuming feed. There was also a group of elk in the Sugar city area that, due to its proximity to the highway and a cattle operation, was eventually pushed across Highway 20 using IDFG, ITD, and ISP personnel.

Conversion of elk winter range into agricultural fields and domestic elk farms will likely increase depredation problems within this zone. These elk are now migrating west to the Hamer area during moderate to severe winters. This area has been almost completely converted to agricultural fields and offers very little for wintering elk. The IDFG has resorted to depredation hunts in this area as thousands of elk depredate hundreds of widely scattered haystacks. Periodically, agricultural producers dump excess potatoes in the Sand Creek Desert, and elk have been observed wintering on these sites.

Hunting and Harvest Characteristics

Total harvest in the Island Park Zone in 2019 was estimated at 631 elk based on the mandatory harvest report. This represents a 9% decrease in harvest from 2018 (695) and is similar to the previous three-year average of 645 (2016-2018). Total hunter numbers were estimated at 3,158 for 2019 compared to 3,189 hunters for 2018. An average of 37% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 21% hunter success rate.

Disease Monitoring

Elk found within the Island Park Zone have Brucellosis; a disease that can cause cattle to abort. Much of the Island Park Zone is found within the Designated Surveillance Area (DSA). The IDFG works with the Idaho State Department of Agriculture and United States Department of Agriculture to prevent contact between elk and cattle, especially during the winter months. This often includes permanent and temporary stack yards to protect stored hay. All adult female elk captured within the zone are tested for Brucellosis. Hunter blood test kits are often sent to sportsman to monitor the distribution and prevalence of the disease.

The IDFG recently revised its chronic wasting disease (CWD) surveillance strategy. Because CWD has a higher probability of being detected in deer, the primary focus of the new surveillance strategy is focused on this species. However, any mortality from collared elk or elk displaying symptoms (i.e. suspect animals) of CWD is submitted for testing.

Management Discussion

Sightability estimates are needed periodically to monitor this elk population. Also, better knowledge of summer/fall spatial distribution of this elk herd could improve our ability to achieve harvest objectives. In addition, this information is valuable to assess the effectiveness of the travel management policy on the Targhee National Forest. A better understanding of interstate movements of the Island Park elk, particularly those moving to winter ranges in

Montana, could improve our harvest management and allow us to better tailor our season structure to facilitate interstate elk management cooperation. The ongoing elk calf survival and movements study in GMU 61 should improve our understanding of this populations movements and harvest availability.

In GMU 62, a comprehensive inventory of winter range in this zone is needed to fully accomplish the objective of ending all winter feeding. The condition of some winter ranges may provide an opportunity for enhancement for elk, perhaps through seeding, burning, or changes in livestock management. As part of this, an assessment of the location, quality, and remaining terms of enrollment of the area's CRP lands is essential if the fed populations in this zone are to become self-sufficient. Continued work with private landowners in the Zone to secure stored crops and winter feed lots is also important to segregate wintering elk and cattle. Additionally, information on snowmobile use of these lands is needed. If the lands are to be made available to elk, snowmobiles should be discouraged.

Elk that summer in Yellowstone National Park near the Bechler Meadows and Grand Teton National Park historically migrated to the Sand Creek desert to winter. It was estimated that up to 1,000 elk migrated this way in the 1980's and 1990's. Current estimates are a few hundred. In 2016, the Grand Teton National Park staff contacted IDFG wanting to mark some of these elk for more current data. The IDFG will work as available with other agencies for this study.

Elk Zone

Island Park (GMU 60, 60A, 61, 62, 62A)

3-Year Averages (2017-2019)

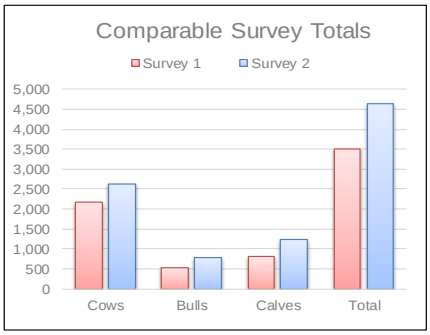
Hunters	3,116	Antlered	422
Hunter Days	27,544	Antlerless	237
Success	21%	% ≥6 Point	37%
Harvest	659		

Zone Characteristics

Square Miles	2,886
% Public Land	63%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2020	2,634	776	441	1,200-1,800	400-575	250-375
Bulls per 100 Cows			29	17		30-35	18-22



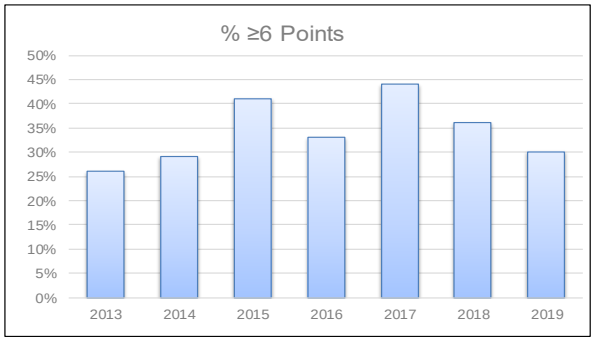
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
60	2016	2	15	0	17	ND				
60A	2016	2,033	470	766	3,269	2020	2,536	765	1,180	4,481
61	ND				0	ND				
62	2016	133	35	40	208	2020	87	7	53	147
62A	2016	5	3	3	11	2020	11	4	6	21
Comparable Surveys Total		2,173	523	809	3,505		2,634	776	1,239	4,649
Per 100 Cows			24	37				29	47	

Note: ND = no survey data available.

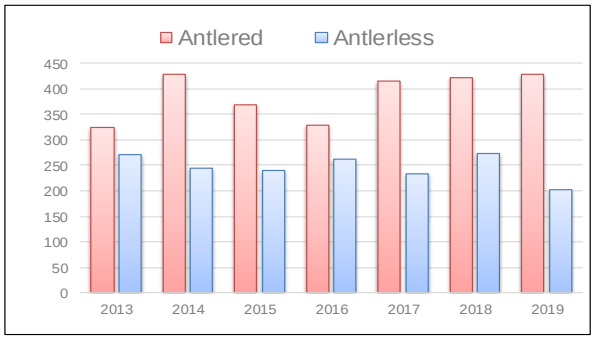
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	100%	-	-	100%	91%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,881	2,262	2,179	2,061	2,227	2,382	2,399
Hunter Days	16,851	20,655	19,898	18,760	20,285	22,451	23,749
Antlered	192	299	252	237	310	316	297
Antlerless	85	115	86	87	115	128	103
Harvest	277	414	338	324	425	444	400
Success Rate	15%	18%	16%	16%	19%	19%	17%
% ≥6	25%	25%	38%	26%	41%	31%	20%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	43	0	0	0	0	0	0
Hunter Days	131						
Antlered	10						
Antlerless	0						
Harvest	10	0	0	0	0	0	0
Success Rate	23%						
% ≥6	60%						
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	685	736	719	743	774	807	759
Hunter Days	4,196	4,868	4,382	5,108	5,784	5,210	5,154
Antlered	122	129	116	91	106	106	131
Antlerless	185	130	154	176	119	145	100
Harvest	307	259	270	267	225	251	231
Success Rate	45%	35%	38%	36%	29%	31%	30%
% ≥6	50%	37%	47%	51%	53%	49%	53%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,609	2,998	2,898	2,804	3,001	3,189	3,158
Hunter Days	21,178	25,523	24,280	23,868	26,069	27,661	28,903
Antlered	324	428	368	328	416	422	428
Antlerless	270	245	240	263	234	273	203
Harvest	594	673	608	591	650	695	631
Success Rate	23%	22%	21%	21%	22%	22%	20%
% ≥6	26%	29%	41%	33%	44%	36%	30%



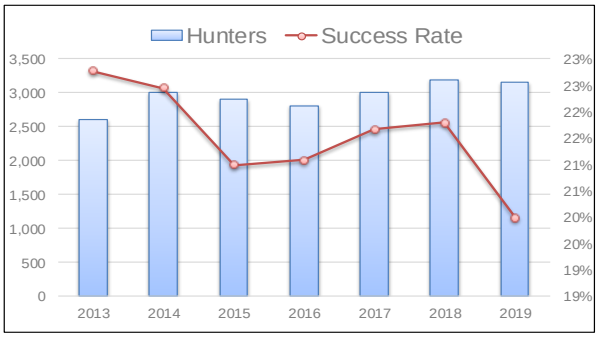


Figure 25. Island Park Zone Elk Status and Objectives.

Palisades Zone (GMUs 64, 65, 67)

Historical Background

In 2014, the Teton Zone was dissolved and GMU 65 was added to the Palisades Zone. Reports of elk in the 1800s and early 1900s are imprecise and inconclusive for this area; however, it is likely elk were present. General either-sex hunting was allowed until the mid-1970s. At that time, over-harvest became a concern and the format was changed to allow 5 days of general hunting for bulls only. Hunting for antlerless elk was restricted to permits. The elk population was relatively stable through the 1980s with 50–60 animals wintering in the Game Creek/Moose Creek area and 30–40 animals wintering along Teton River in the basin. Elk damage to haystacks in Swan Valley dates back to the mid-1950s, corresponding with a loss of winter range from inundation by Palisades Reservoir on the South Fork of Snake River. In the mid-1970s, the IDFG began feeding elk in Rainey Creek to bait them away from livestock feeding operations. This activity continued until 2005 and involved approximately 150 animals. The IDFG does not plan to feed elk again at Rainey Creek or Victor. The elk population wintering in this zone has increased gradually over the last 3 decades.

Management Objectives

Objectives for the Palisades Zone (Figure 27) are to maintain 400–600 cows and 125–200 bulls, of which 75–125 should be adult bulls. The aerial survey conducted in January and February 2020 indicated that the population is below objective for cows, within objective for total bulls and above objective for adult bulls. Proposed population objectives for the Palisades Zone balance hunter opportunity and hunter success with crop and property damage on agricultural lands. Current and future management efforts will be consistent with eliminating the artificial feeding operation that was conducted at Rainey Creek and Victor, as directed by the Wildlife Brucellosis Task Force Report and Recommendations to the Governor (Sept. 1998). Following the elimination of annual feeding, the population will be allowed to recover to the extent it can be supported on natural forage, particularly on winter ranges northwest of Dry Canyon. Population manipulation will be accomplished primarily through public hunting; however, capture and translocation could also be employed. This zone offers most of what little semi-backcountry hunting opportunity remains in eastern Idaho.

Habitat Management and Monitoring

Abundant spring, summer, and fall habitat exists in this zone. Winter range is limited and is more characteristic of mule deer habitat than elk habitat. Most elk winter range has been lost to agriculture and inundation by Palisades Reservoir, and is currently threatened by proposed housing developments. Potentially important winter ranges in the northern portion of the zone (Grandview Point) are now nearly vacant, likely due to displacement of elk by snowmobile activity. Winter range shrub communities on slopes in the vicinity of the mouth of Rainey Creek appear to have suffered from years of overgrazing by elk and mule deer. The Palisades Ranger District of the Caribou Targhee National Forest is implementing aspen management, conifer encroachment, prescribed fire, and urban-interface fuel reduction programs in the Rainey Creek area. Mature mountain mahogany stands throughout the zone may be providing only limited forage, in addition to precluding all but a sparse understory of other species. Recently, urban sprawl, particularly in the east portion of GMU 65, has crept up the hillsides and reduced much

of what limited winter range existed in that portion of the zone. Additionally, recent increases in winter recreation (snowmobiles and skiing) likely reduce suitable winter range in this Zone.

Biological Objectives

The most pressing biological issues in this zone are related to the winter feeding of elk and the condition of available winter range for elk. The elk herd wintering in Rainey Creek, about 150 animals, has a documented brucellosis exposure rate exceeding 25%, based on testing of >100 individuals. Late hunts have had limited success in reducing this population. Until 2005, a program was implemented to capture and remove all positive-testing female animals and translocate negative testing animals to winter ranges northwest of Dry Canyon. This program was discontinued after 2005 and IDFG has discontinued all feeding in Rainey Creek. Although a significant number of elk continue to use the Rainey Creek drainage during the winter, elk were more dispersed throughout the drainage, and adjacent areas, during the 2009 survey than they were during feeding operations prior to 2005. The IDFG goal is to keep wintering elk and cattle separated in Swan Valley and the Teton Basin using exclusionary devices (i.e., paneling, fencing) and hazing.

The Teton Basin population (GMU 65) has increased over the past 10 years and consists of 2 groups. One herd winters east and south of Victor. It is estimated the winter range in the area could support 50–60 animals. Addressing overpopulation through harvest is difficult in this area because many of the animals are in Wyoming until late winter. Historically, the other group winters along the Teton River in Teton Basin. Up to130 animals have been counted here and pose a major depredation threat under normal winter conditions. This herd most likely moves to the Teton Basin from the Big Hole Mountains. The survey in 2015–2016 counted 99 elk in this area. More elk were counted on the east side of the valley in 2015–2016. This group of elk, 55 individuals, is very close to the town of Tetonia and wintering on private property.

Domestic elk operations in this zone present a significant risk to wild elk herds. Many of these operations are shooter bull-based, with large pens in occupied elk range. This provides significant opportunity for domestic elk to contact wild elk through the fence or by escape. This situation creates a risk of disease transmission and genetic introgression.

Capture, Radio-mark, and or Telemetry

A total of 6 antlerless elk were radio marked east of Victor, Idaho in February 2018. This is part of a larger study (graduate student) GMU (GMU's 62 and 65) with Wyoming Game and Fish, Grand Teton National Park, and Yellowstone National Park.

Population Surveys and Monitoring

The aerial survey conducted in the Palisades Zone in 2020 counted 573 elk (raw count), down from 819 elk in 2016. The sightability model estimated a total of 631 animals for the zone in 2020. The survey indicated a relatively stable calf:cow ratio (x_{2020} = 42: 100; x_{2016} = 41:100) and bull:cow ratio (x_{2020} = 60:100; x_{2016} = 57:100)..

Inter-specific Issues

In addition to elk, the Palisades Zone is home to an important mule deer population, a strong moose population, and is grazed extensively by domestic livestock. Inter-specific relationships among these species and elk are not well-monitored and are poorly understood. Competition between elk and mule deer is probably occurring in the immediate vicinity of Rainey Creek, where both species were frequently fed from the mid-1970s through 2005. There is also concern over wintering elk herds are using traditional mule deer winter range in the Heise area.

Predation Issues

Black bear and mountain lions are common in this zone. Hunters in this elk zone have reported seeing black bears consistently. Coyotes are common, especially on the winter range, but are not known to have much impact on elk populations. Wolves reintroduced by USFWS in 1995 have established a territory in GMU 67, which could affect elk populations. There have been several confirmed grizzly bear sightings in this elk zone although it is not known whether these bears were moving through the area or consistently use the GMU's that make up the Palisades elk zone.

Winter Feeding and Depredation

In the late 1970s, a rancher near Irwin began feeding cattle near the mouth of Rainey Creek and along the USFS boundary. Concurrently, large areas of browse in the area were being converted to agriculture. The combination of these factors resulted in elk damaging stored hay and taking advantage of the livestock feed-lines. The IDFG resolved these conflicts by baiting the elk up into Rainey Creek. It is IDFG's intent to eliminate all but emergency feeding of elk in this zone. This should also reduce any brucellosis-related concerns.

During the winter of 2007–2008, IDFG baited approximately 125 elk to a site above Swan Valley on Pine Creek bench to prevent human safety concerns along Highway 26. A total of 24 tons of hay were fed over a 68-day period for this operation. Also during the winter of 2007–2008, IDFG personnel used snow machines to push elk away from livestock operations in Swan Valley on numerous occasions. The region responded to numerous complaints about elk-cattle interactions and elk-hay interactions during the winter 2010–2011; although no feeding or baiting activities were initiated.

The same winter most elk in the Teton Valley were concentrated at an IDFG sanctioned bait site. In Victor a herd of approximately 50 elk traditionally wintered in the foothills east and south of Victor. Around 1990, a landowner began feeding this elk herd, which has grown each year and now numbers approximately 200 animals. The IDFG has rejected all requests to feed elk or establish a permanent feed ground at this site. Permanent stack yards, panels, and hazing have been employed to combat depredations at this site. A large damage payment was made to a nursery in the vicinity, which was then fenced at significant expense. The IDFG provided hay to this operation on 2 winters, which were deemed to be emergency cases.

During the 2019-2020 winter, a group of 75-100 elk were reported near the Driggs airport in early spring. In addition to a potential public safety issue, there was concern over these elk mixing with cattle that were being held in the area.

Hunting and Harvest Characteristics

Total harvest in the Palisades Zone in 2019 was estimated at 163 elk based on the mandatory harvest report. This represents a 25% decrease in harvest from 2018 (217), and is lower than the previous three-year average of 219. Total hunter numbers were estimated at 1,326 for 2019 compared to 1,409 hunters for 2018. An average of 59% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 13% hunter success rate.

Disease Monitoring

Elk found within the Palisades Zone have Brucellosis; a disease that can cause cattle to abort. Much of the Palisades Zone is found within the Designated Surveillance Area (DSA). The IDFG works with the Idaho State Department of Agriculture and United States Department of Agriculture to prevent contact between elk and cattle, especially during the winter months. This often includes permanent and temporary stack yards to protect stored hay. All adult female elk captured within the zone are tested for Brucellosis. Hunter blood test kits are often sent to sportsman to monitor the distribution and prevalence of the disease.

The IDFG recently revised its chronic wasting disease (CWD) surveillance strategy. Because CWD has a higher probability of being detected in deer, the primary focus of the new surveillance strategy is focused on this species. However, any mortality from collared elk or elk displaying symptoms (i.e. suspect animals) of CWD is submitted for testing.

Management Discussion

A comprehensive inventory of winter range in this zone is needed. Although some winter range in the zone has been lost forever (e.g., areas flooded by Palisades Reservoir), the condition of some winter ranges may provide opportunities for habitat enhancement for elk, perhaps through burning or changes in livestock management. As part of this, an assessment of the location, quality, and remaining terms of enrollment of the area's CRP lands will be needed. Continued work with private landowners in the zone to secure stored crops and winter feed lots is also important to segregate wintering elk and cattle. Additionally, information on snowmobile use of these lands is needed. If the lands are to be made available to elk, snowmobiles should be discouraged.

Elk Zone

Palisades (GMU 64, 65, 67)

3-Year Averages (2017-2019)

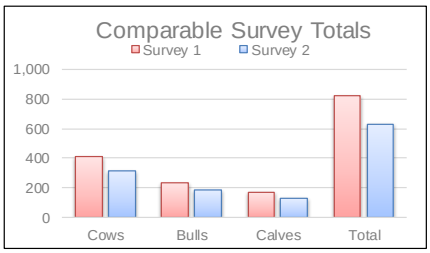
Hunters	1,366	Antlered	88
Hunter Days	9,359	Antlerless	95
Success	13%	% ≥6 Point	59%
Harvest	183		

Zone Characteristics

Square Miles	771
% Public Land	52%
Land Type	Forest Agriculture

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2020	312	186	155	100-600	125-200	75-125
Bulls per 100 Cows			60	50		30-35	18-22

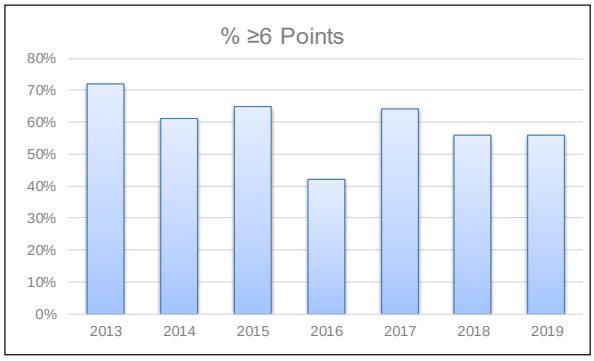


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
64, 65, 67	2016	413	236	171	820	2020	312	186	130	628
Comparable Surveys Total		413	236	171	820		312	186	130	628
Per 100 Cows			57	41				60	42	

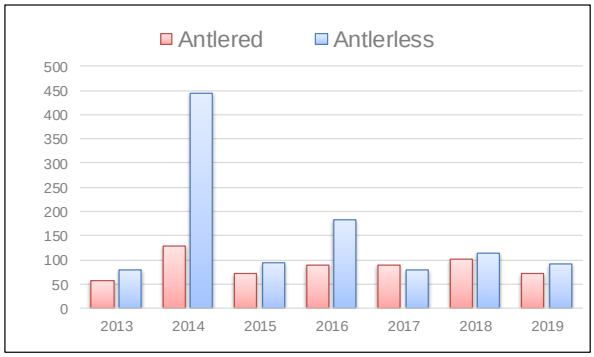
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	100%	100%	100%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	508	1,044	834	862	830	924	813
Hunter Days	3,810	7,153	5,606	5,146	6,516	6,524	7,330
Antlered	10	49	39	44	33	40	26
Antlerless	54	406	74	142	61	78	72
Harvest	64	455	113	186	94	118	98
Success Rate	13%	44%	14%	22%	11%	13%	12%
% ≥6	50%	47%	62%	30%	56%	38%	73%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	215	423	378	379	412	356	403
Hunter Days	954	1,640	1,767	1,611	1,971	1,358	1,838
Antlered	38	71	30	43	44	57	39
Antlerless	1	1	4	8	2	0	2
Harvest	39	72	34	51	46	57	41
Success Rate	18%	17%	9%	13%	11%	16%	10%
% ≥6	82%	65%	67%	53%	73%	69%	44%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	115	131	83	112	122	129	110
Hunter Days	714	702	504	722	979	795	767
Antlered	9	8	2	3	12	5	7
Antlerless	25	37	15	32	17	36	17
Harvest	34	45	17	35	29	41	24
Success Rate	30%	34%	20%	31%	24%	32%	22%
% ≥6	44%	8%	100%	50%	53%	37%	38%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	838	1,598	1,295	1,353	1,364	1,409	1,326
Hunter Days	5,478	9,495	7,877	7,479	9,466	8,677	9,935
Antlered	57	128	71	90	89	102	72
Antlerless	80	444	93	182	80	114	91
Harvest	137	572	164	272	169	216	163
Success Rate	16%	36%	13%	20%	12%	15%	12%
% ≥6	72%	61%	65%	42%	64%	56%	56%



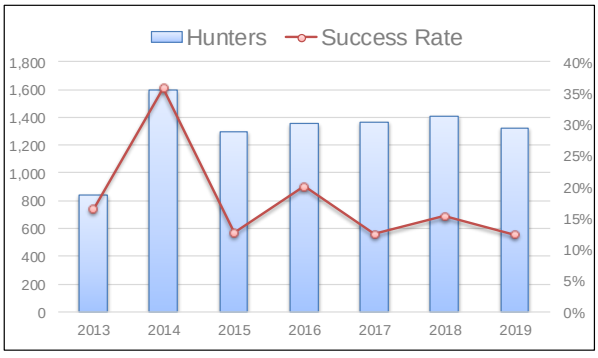


Figure 27. Palisades Zone Elk Status and Objectives.

Tex Creek Zone (GMUs 66, 69)

Historical Background

Elk were present in the Tex Creek Zone during the late 1840s, as reported by Osborne Russell in Journal of a Trapper (1914). According to residents of the area, elk were rarely seen during the early twentieth century. The elk population increased during the 1940s and by the mid-1950s depredation complaints on winter wheat were common. The first modern hunt was implemented in 1952 and consisted of 50 permits. Beginning in 1955, general hunting was allowed and has continued in some form to the present.

The elk population continued to grow through 2005, when the population was estimated at 5,200. Controlling growth of the Zone's elk population has driven harvest strategies during this period. Recently, historical over-harvest of bulls and under-harvest of cows has been addressed with implementation of the dual-tag zone system with general antlerless hunts and increased antlerless tags on late controlled hunts. Aerial surveys conducted in 2010 and 2013 estimated the population at 3,831, and 3,899 elk respectively. The elk population is back up to 5,495 as of 2018.

Management Objectives

Objectives for the Tex Creek Zone (Figure 28) are to winter 2,000–3,000 cows and 425–625 bulls, of which 250–350 should be adult bulls. The most recent aerial survey information, January 2018, indicates that cows, total bulls, and adult bulls are all above objective. However, a large number of elk that summer in GMU 66A (Diamond Creek Zone) winter in the Tex Creek Zone and objectives differ between the zones, therefore managing harvest and opportunity has been problematic. Management of Tex Creek elk should be coordinated with management of GMU 66A (Diamond Creek Zone). Depredation problems will be solved using hunting as a first option.

Habitat Management and Monitoring

Habitat throughout the Tex Creek Zone is, or has the potential to be, highly productive. The fertile, mineral rich soils of the area produce diverse plant communities including sagebrush-grasslands, extensive aspen patches, and cool moist conifer stands primarily on north- and east-facing slopes. Terrain is generally mild and much of the private land in the area is dry-farmed with cereal grains. Nearly half of the zone is private land with the balance of public lands administered by USFS, BLM, IDL, and IDFG. A significant portion of the private land is CRP-enrolled and is contributing substantially to the area's carrying capacity during all seasons. Tex Creek WMA, partially owned and totally managed by IDFG, provides 30,000 acres of prime winter habitat for elk, mule deer, and moose in the zone. This land was purchased to mitigate for habitat inundated or destroyed by the Ririe, Palisades, and Teton Dams.

In August 2016, a large wildland fire (Henry's Creek fire) burned 52,000 acres including approximately 75% of the Tex Creek WMA. Due to reduced winter forage on the Tex Creek area, IDFG implemented a winter feeding operation in Indian Fork. Over 1,200 ton of alfalfa was fed to approximately 3,500 elk From December 2016 until March 2017.

Biological Objectives

From a biological perspective, elk in GMUs 66, 69 (Tex Creek Zone), and 66A (Diamond Creek Zone) should be managed as one population, in the same zone. The Tex Creek elk are productive and their future management will be heavily influenced by the need to control this population. Placing all seasonal ranges of these elk in the same zone would be appropriate to accomplish this objective.

Due to concern over total wintering elk numbers in GMU 69 being too high for the area and their impacts on the local mule deer herd, the antlerless hunt was restructured in 2004. The hunt was moved from 21 October–7 November to 15–30 November. The objective of this change was to harvest more cows, especially those migrating into GMU 69 from GMU 66A. The hunt was successful in harvesting more cows but brought about some unethical hunter behavior. The later season, combined with some very unusual early storms and a lack of hunting pressure in late October and early November, brought large herds of elk onto winter range before the hunt opened. This left elk vulnerable and some hunters acted inappropriately. The hunt was successful at harvesting more elk, but even with the larger harvest, the herd was still estimated to be 5,200 animals in a post-hunt aerial survey. In 2005, the hunt was changed back to a 21 October opener but still remained open until 30 November. The season structure was changed again in 2013. The rifle portion of the A tag was shortened from 5 weeks to 3. The season now runs October 22 thru November 16. The statewide elk management plan was revised in 2013. As part of this revision an elk hunter survey indicated that elk hunters would like elk populations to be higher. The region was given direction to increase elk populations in those zones where they thought that increases were feasible and responsible; Tex Creek was identified as one of those zones.

Domestic elk operations in this zone present a significant risk to wild elk herds. Many of these operations are shooter bull-based, with large pens in occupied elk range. This provides significant opportunity for domestic elk to contact wild elk through the fence or by escape. This situation creates a risk of disease transmission and genetic introgression.

Capture, Radio-mark, and or Telemetry

No elk are currently radio marked in the Tex Creek zone.

Population Surveys and Monitoring

In 2018, this zone was surveyed during winter months (February). Antlered and antlerless elk were above objective for this zone and calf/cow ratios are at 34 calves per 100 cows. This population is growing and performing very well.

Inter-specific Issues

The Tex Creek Zone supports an important mule deer population. During the winter of 1992–1993, this deer population sustained significant mortality and did not recover as hoped. During the winters of 2005–2006, 2007–2008, and 2010–2011, this population, along with other eastern Idaho mule deer populations, again sustained significant fawn mortality due to severe and extended winter conditions. The area also supports a strong moose population and is grazed extensively by domestic livestock. In the past, mule deer and elk appeared to be spatially separated on winter range and there were no known conflicts between elk and moose; however,

relationships among these species were not monitored or well understood. A graduate student research project was initiated in 2005 to explore elk and mule deer competition in the Willow Creek Canyon complex (Atwood 2009). This study found that elk and mule deer tended to segregate during mild winters, but that elk moved down onto traditional mule deer winter ranges during severe winters. Although elk ranges during the severe winter entirely encompassed the deer winter range, the winter diets of the species remained fairly segregated, suggesting minimal dietary competition. In addition, elk presence did not significantly affect mule deer movements, diets, and stress levels. More research is needed to address mule deer and elk competition on summer and transitional ranges.

Predation Issues

Black bear densities appear to be low and stable in this zone. Mountain lions are common. Coyotes are also common, especially on the winter range, but are not known to have much impact on elk populations. Wolves introduced by USFWS in 1995 have moved through the area, which could affect elk. The one established pack in this Zone (Fall Creek) was removed by USDA-Wildlife Services in the summer of 2009 due to repetitive livestock depredations. There are currently no documented wolf packs in this Zone, although several unverified reports have been filed with IDFG about 3–4 wolves in GMUs 66 and 69. A wolf, collared in Wyoming, crossed into GMU69 in early spring 2020, but was not known to be associated with a pack. A few grizzly bears have been reported in GMU 66 by elk and deer hunters.

Winter Feeding and Depredation

Elk are not fed in this zone except on an emergency basis, which occurred during the winters of 1988–1989, 1992–1993, 2003–2004, and 2016–2017. Because of the zone's proximity to known brucellosis-infected herds in Wyoming and Idaho, it is extremely critical that feeding on anything less than a genuine emergency basis be avoided. Large round bales of grass-alfalfa hay have been left in the field on Tex Creek WMA periodically to attract elk to the area and hold them on that winter range.

During winter 2003–2004, approximately 2,000 elk crossed Willow Creek and many were very close to Iona Hill. After a few elk were killed on the railroad tracks close to Iona, IDFG decided to drive the elk back to Tex Creek WMA and bait them there with hay to keep them away from town and potential trouble. The operation required 2 driving operations and feeding ~76 tons of hay to over 1,400 elk. The elk were successfully held until the end of winter.

During the winter of 2007–2008, significant snow pack and extended winter conditions caused approximately 300 elk to move down along the Highway 26 corridor south of Ririe, creating human safety concerns along the roadway. An additional 80 elk moved down along roadways in east Ammon. On numerous occasions IDFG personnel used snow machines to push these elk groups to the south and east away from roadways. During the winter of 2008–2009, approximately 400 elk moved down near Highway 26 south of Ririe. On occasion, IDFG personnel use snowmobiles to push these elk south and east away from the highway. As many as 1,000 elk moved down near Hwy 26 between Clark Hill and Iona during the winter of 2010 – 2011. The region dealt with dozens of complaints and depredation calls that were associated with these groups of elk but winter feeding was not initiated. Approximately 350 elk were observed

crossing the South Fork of the Snake River near Burns Creek in late winter 2017–2018. These elk stayed along highway 26 and the Antelope Creek/Birch Creek area until spring.

The Henry's Creek fire that burned 52,000 acres of the Tex Creek winter range greatly reduced winter forage for this elk herd. Due to this, IDFG implemented a winter feeding operation in Indian Fork on the Tex Creek WMA. Over 1,200 tons of alfalfa was fed to approximately 3,500 elk from December 2016 until March 2017.

The heavy snow load in the winter of 2018/2019 pushed elk down into the Willow Creek drainage, but the lack of winter wheat and similarly heavy snow loads on the Ball property held elk on Tex Creek WMA that in previous winters had contributed to depredation issues in the area.

During the winter of 2019-2020, some small groups of elk headed north and crossed Swan Valley highway and spent a significant amount of time during the winter depredating haystacks and cattle feed lines in the area.

Hunting and Harvest Characteristics

Total harvest in the Tex Creek Zone in 2019 was estimated at 571 elk based on the mandatory harvest report. This represents a 23% decrease in harvest from 2018 (745) and is lower than the previous three-year average of 765. Total hunter numbers were estimated at 3,222 for 2019 compared to 3,671 hunters for 2018. An average of 31% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 19% hunter success rate.

Disease Monitoring

Elk found within the Tex Creek Zone have Brucellosis; a disease that can cause cattle to abort. Small parts of the Tex Creek Zone are found within the Designated Surveillance Area (DSA). The IDFG works with the Idaho State Department of Agriculture and United States Department of Agriculture to prevent contact between elk and cattle, especially during the winter months. This often includes permanent and temporary stack yards to protect stored hay. All adult female elk captured within the zone are tested for Brucellosis. Hunter blood test kits are often sent to sportsman to monitor the distribution and prevalence of the disease.

The IDFG recently revised its chronic wasting disease (CWD) surveillance strategy. Because CWD has a higher probability of being detected in deer, the primary focus of the new surveillance strategy is focused on this species. However, any mortality from collared elk or elk displaying symptoms (i.e. suspect animals) of CWD is submitted for testing.

Management Discussion

In 1978, 1979, and 1980, IDFG conducted radio-telemetry studies of elk wintering on Tex Creek WMA, the results of which indicated these elk summered primarily in GMUs 66 and 66A with some summering in GMUs 69 and 76. This work was duplicated in 1998–1999 and 2005–2009 with results showing similar trends in distribution and movement. All data on the movements and distribution of Tex Creek Zone elk should be fully analyzed, along with the movements and

distribution of Diamond Creek Zone (GMUs 66A and 76) elk, to re-evaluate the management strategy for these intertwined populations.

Literature Cited

Atwood, M. P. 2009. Interactions between mule deer and elk on winter range at the Tex Creek Wildlife Management Area, Idaho. Thesis, Idaho State University, Pocatello, USA.

Russell, O. 1914. Journal of a Trapper, 1834 –1843. Syms-York, Boise, Idaho.

Elk Zone

Tex Creek (GMU 66, 69)

3-Year Averages (2017-2019)

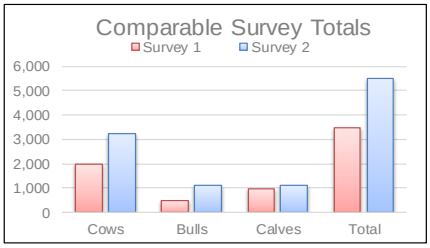
Hunters	3,553	Antlered	395
Hunter Days	21,710	Antlerless	274
Success	19%	% ≥6 Point	31%
Harvest	668		

Zone Characteristics

Square Miles	1,796
% Public Land	36%
Land Type	Forest Agriculture Rangeland

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2018	3,252	1,114	713	2,000-3,000	425-625	250-350
Bulls per 100 Cows			34	22		18-24	10-14

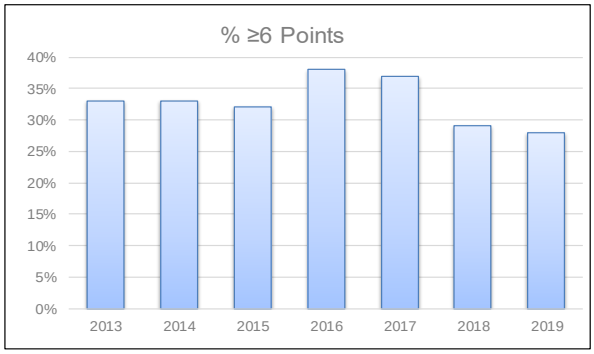


Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
66, 69	2013	1,973	507	982	3,462	2018	3,252	1,114	1,117	5,483
Comparable Surveys Total		1,973	507	982	3,462		3,252	1,114	1,117	5,483
Per 100 Cows			26	50				34	34	

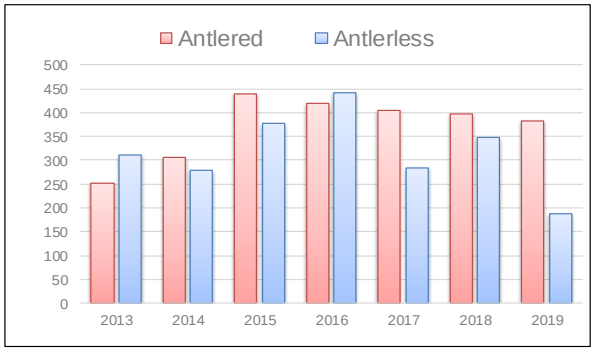
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	-	-	-	-	-	-



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	2,103	2,111	2,377	2,433	2,392	2,287	1,528
Hunter Days	14,353	13,650	16,192	15,625	16,851	16,512	12,059
Antlered	71	93	154	76	117	111	103
Antlerless	276	236	337	346	268	318	116
Harvest	347	329	491	422	385	429	219
Success Rate	17%	16%	21%	17%	16%	19%	14%
% ≥6	42%	35%	49%	41%	30%	35%	25%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	897	899	1,087	1,150	1,252	1,257	1,207
Hunter Days	3,663	3,759	4,221	4,722	5,561	5,481	5,120
Antlered	167	200	282	335	279	272	272
Antlerless	8	5	0	17	0	5	2
Harvest	175	205	282	352	279	277	274
Success Rate	20%	23%	26%	31%	22%	22%	23%
% ≥6	25%	32%	23%	37%	39%	25%	29%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	143	133	134	501	122	127	487
Hunter Days	555	512	662	2,272	576	596	2,373
Antlered	14	14	4	8	8	14	8
Antlerless	26	39	41	79	17	25	70
Harvest	40	53	45	87	25	39	78
Success Rate	28%	40%	34%	17%	20%	31%	16%
% ≥6	71%	21%		60%	56%	51%	28%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	3,143	3,143	3,598	4,084	3,766	3,671	3,222
Hunter Days	18,571	17,921	21,075	22,619	22,988	22,589	19,552
Antlered	252	307	440	419	404	397	383
Antlerless	310	280	378	442	285	348	188
Harvest	562	587	818	861	689	745	571
Success Rate	18%	19%	23%	21%	18%	20%	18%
% ≥6	33%	33%	32%	38%	37%	29%	28%



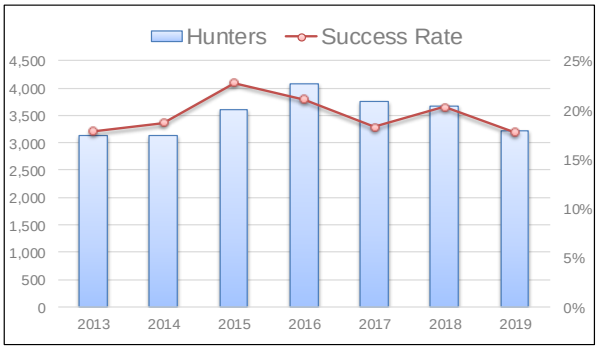


Figure 28. Tex Creek Zone Elk Status and Objectives.

Salmon Zone (GMUs 21, 21A, 28, 36B)

Historical Background

Although present from the time of the first white explorers and trappers, elk were in low abundance in the Salmon Zone through much of the twentieth century. From 1917 until the 1940s, parts of GMUs 28 and 36B were designated as no hunting "game preserves." Sixty-two elk from Yellowstone Park were released in Panther Creek drainage (GMU 28) in 1937. As has occurred over much of the western United States, elk herds have expanded dramatically since the mid-1970s. Aggressive antlerless harvest from 1992 to the late 1990s stabilized and reduced rapidly growing herds in GMUs 21 and 21A, and may have reduced growth rates in the other 2 GMUs.

To stimulate and maintain herd productivity, balance depredation concerns with a reasonably large elk population, and minimize potential impacts on mule deer, a five-year period of herd reduction totaling about 33% of previous numbers was accomplished in GMU 21 in the late 1990s. Antlerless harvest was increased beginning in 2005, but then reduced in all GMUs for 2008 seasons because of a significant reduction in elk numbers across the Zone. A quota was established for Salmon Zone B-tags because the 2010 survey showed continued decline in cow and bull numbers. Today, Salmon Zone winters approximately 9,800 elk.

In recent years around 3,300 people hunted the Salmon Zone, including around 2,150 B-tag hunters, 700 A-tag hunters, and around 500 controlled-hunt hunters. In 2019, approximately 686 antlered and 252 antlerless elk were harvested. Antlerless harvest has continued to decline since a recent high of 450 in 2017 and 309 in 2018. This fluctuation in female harvest is due to elk response to increased efforts to alleviate private land depredation in past years and the refinement of hunting efforts in the agricultural interface in GMUs 21A, 28, and 36B.

Management Objectives

Objectives for the Salmon Zone in the 2014-2024 Elk Plan are to maintain the currently healthy, and within objective cow elk populations and increase current bull elk populations. The objectives are to maintain 4,850–7,400 cows, 1,020–1,560 bulls, and 585–885 adult bulls in the Salmon Zone.

Domestic livestock grazing, mining, and recreation are the dominant human uses of the landscape in the Salmon Zone. The Salmon Zone is defined as being moderately limited by agriculture impacts in the 2014-2024 Elk Plan. Management objectives include not only managing biological objectives based on the Zones carrying capacity, but also managing for social carrying capacities.

Habitat Management and Monitoring

The Salmon Zone is 95% public lands. Currently there are no large scale habitat management projects in place. However, spread of annual invasive grasses and noxious weeds such as knapweed and rush skeleton weed could ultimately have significant impacts on winter range productivity in this Zone. This risk is most pronounced post wildfire.

The Salt Fire was a large-scale forest fire that occurred in the western portion of GMU 28 in 2000. Another landscape-scale, 350,000 acre, forest fire occurred in 2012 in GMU 21. The most recent wildfire activity was the Rabbit Foot Fire in 2018 near the border of GMUs 36B and 28 and encompassed approximately 36,000 acres. Fires set the landscape back from a climax successional state in dense lodge pole stands to an early- to mid-seral state. This typically leads to improved elk habitat quality and is often reflected in calf production and survival.

Biological Objectives

Aerial surveys in 1992 and 1994 found high winter elk densities in GMU 21A, a migratory herd shared by Idaho and Montana. Winter range concerns in Idaho and depredation concerns in Montana prompted significant increases in antlerless hunting in both states with a goal of reducing the herd to 2,000–2,500 wintering elk. The average total antlerless harvest increased from about 100 animals to about 300 animals, and by 2000, the herd was reduced to approximately 1,800 animals. Similar reductions occurred in GMU 21; total winter elk numbers dropped to 1,550 during surveys in 2001. Antlerless elk harvest was discontinued in GMUs 21 and 21A in 2000. The population in GMU 21A dramatically increased by 2005, reaching 3,345 animals; therefore, antlerless harvest was implemented in the 2005 season. By 2008 numbers fell again to the top of objective levels and antlerless harvest was reduced in 2008. GMU 21A continued to see a slight decline in the cow population and a drop of almost half of the bulls between 2008 and 2010. Surveys in 2016 have shown a slight increase in both cow and bull numbers throughout the Zone to levels within objective for both.

GMUs 28 and 36B experienced major population increases (57% and 30%, respectively) through the 1990s, despite modest increases in antlerless harvest. Antlerless harvest was reduced after 2000, particularly in GMU 28, in response to low calf: cow ratios. Total population in GMU 36B had been stable, but the sex ratio had become more skewed toward females. In contrast, cow numbers in GMU 28 reached record high numbers in 2005 and exceeded objective by 1,000 animals. As a group, these GMUs were only moderately productive, averaging 30–35 calves:100 cows during the 1990s; production declined between 2005 and 2010 to average 25:100. Partly as a result of this modest productivity and partly because they are relatively accessible general hunt areas, GMUs 28 and 36B have historically experienced relatively low bull:cow ratios (11 bulls per 100 cows). By 2008, numbers in GMU 36B fell 55% to below objective levels for both cows and bulls and numbers in GMU 28 fell by 34%, prompting severe reductions in antlerless harvest.

Quotas were implemented in 2010 for rifle bull tags in the Salmon Zone in order to limit bull harvest in an attempt to increase the bull population. Population objectives for the salmon zone were outlined in the 2014-2024 Elk Plan. These objectives are to maintain 4,850–7,400 cows, 1,020–1,560 bulls, and 585–885 adult bulls in the Salmon Zone. The ratio of calves per 100 cows increased from 25 in 2010 to 31 at the time of the 2016 survey; this, coupled with the increase in total elk from 7,666 to 9,955, are signs of a healthy productive elk herd. From 2010 to the 2016 survey bull ratios increased from 11 to 16 bulls per 100 cows and total bull numbers increased from 606 to 1,092. This increase brought total bull numbers within objective.

Capture, Radio-mark, and or Telemetry

As part of IDFG's elk population monitoring program, adult cows and 6-7 month old calves are often captured and fitted with GPS collars. Biological information is then collected to answer questions related to survival, cause specific mortality, body condition, pregnancy, and habitat use. In addition these collars are utilized to look at migrations and population connectivity. This information allows managers to make informed decisions regarding current and future species management.

During the FY20 reporting period, IDFG deployed 28 calf GPS collars and monitored adult female elk in the Salmon zone. Overwinter calf survival was 79% and cow survival was 97%. Cause-specific mortality study indicates that predation is a major factor in elk survival in this Zone followed by some malnutrition.

Population Surveys and Monitoring

Population monitoring allows IDFG to evaluate elk management towards objectives outlined in the Elk Management Plan and make informed decisions. This monitoring includes estimates of population size, population demographics, and population trends.

Prior to 1980 IDFG flew aerial surveys in key winter range areas to monitor minimum population size and herd composition and to infer trend. In 1994 IDFG developed a sightability model for elk that corrected for probability of detection and allowed the IDFG to generate population estimates. In 2006 elk population surveying and monitoring protocol was further developed to add observer minimum standards, a 3–5 year aerial survey schedule, and to change spatial scale of aerial surveying from the GMU level to the elk management zone level. This robust surveying program and population modeling, coupled with survival and harvest data is currently being utilized to develop an Integrated Population Model (IPM) for elk.

There was no population surveys conducted in the Salmon Zone during this reporting period.

Interspecific Issues

This zone contains the majority of the most productive deer GMUs in Salmon Region; parts of GMUs 21, 21A, and 36B contain high densities of wintering deer. Current high elk densities might be having some impact on the area's capacity to produce deer. This could be particularly pronounced during severe winters when deep snow moves elk down onto deer winter ranges. Similar problems might also occur with bighorn sheep, but the amount of habitat overlap is much less.

Predation Issues

In the Salmon Zone, cause-specific mortalities have been tracked using GPS and VHF radio collars. In general, lion and wolf mortalities are the highest causes of predation. Over the FY20 reporting period, lions accounted for approximately 50% of all elk collar mortalities, followed by malnutrition (25%), unknown non-predation (12.5%), and accident (12.5%). In the Salmon Zone, black bear densities appear to be moderate but typically do not account for many collared elk mortalities due to collars not being deployed until calves are approximately 6 months of age. However, black bears are known to be a predator on elk neonates and the level of occurrence in

the Salmon Zone has not been documented. Coyotes are common, but not typically known to have much impact on elk populations.

Winter Feeding and Depredation

No winter feeding was conducted in the Salmon Zone in FY20. Elk depredations on agricultural crops are the major factor in social carrying capacity in this Zone and are localized, but are especially pronounced in dry years and during harsh winters. The majority of elk depredations occur in GMUs 21A, 28, and 36B. During the FY20 reporting period, 7 permanent stackyards were funded to protect stored forage.

Hunting and Harvest Characteristics

Total harvest in the Salmon Zone in 2019 was estimated at 938 elk based on the mandatory harvest report. Total harvest in 2019 was very close to the previous three-year average of 931 elk. Total hunter numbers were estimated at 3,115 for 2019, down from 3,402 hunters in 2018. On average, 27% of the bulls harvested in these GMUs over the past 3 years have been 6-point or larger with a success rate of 28% for all elk.

Disease Monitoring

During the reporting period disease monitoring in the Salmon zone consisted of the statewide standard monitoring of all captured and collared animals. This includes serological assessments on adults and yearling elk for selenium and trace elements, fecal parasites, pregnancy status disease serology for common domestic diseases: Bovine Respiratory Syncytial Virus (BRSV), Bovine Virus Diarrhea (BVD), Parainfluenza Virus 3 (PI3), Leptospirosis, Epizootic Hemorrhagic Disease (EHD)/Bluetongue (BT), Anaplasmosis; and ultrasound comparison to body condition scoring for overall health assessments.

In addition we conducted voluntary chronic wasting disease and brucellosis monitoring. To date no brucellosis or chronic wasting disease has been detected in the Salmon Zone elk herd.

Management Discussion

Impacts of elk on mule deer production and survival are suspected but unknown. The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and hunter opportunity.

Elk Zone

Salmon (GMU 21, 21A, 28, 36B)

3-Year Averages (2017-2019)

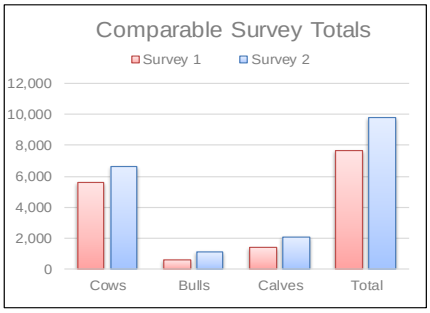
Hunters	3,321	Antlered	594
Hunter Days	22,862	Antlerless	337
Success	28%	% ≥6 Point	27%
Harvest	931		

Zone Characteristics

Square Miles	2,651
% Public Land	95%
Land Type	Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2016	6,659	1,085	569	4,850-7,400	1,020-1,560	585-885
Bulls per 100 Cows			16	9		18-24	10-14



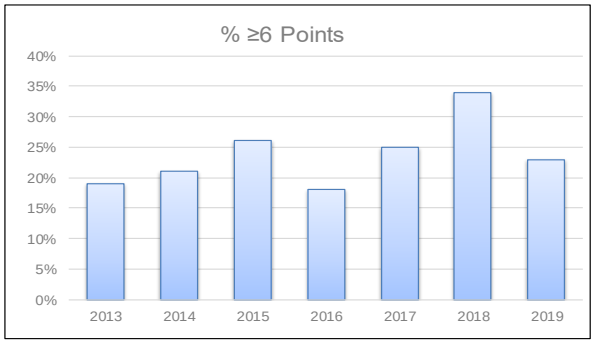
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
21	2010	1,012	89	164	1,265	2016	1,465	342	551	2,358
21A	2010	1,776	173	500	2,449	2016	1,623	390	454	2,467
28	2010	2,084	241	531	2,856	2016	1,596	135	453	2,184
36B	2010	756	103	237	1,096	2016	1,975	218	608	2,801
Comparable Surveys Total		5,628	606	1,432	7,666		6,659	1,085	2,066	9,810
Per 100 Cows			11	25				16	31	

Note: ND = no survey data available.

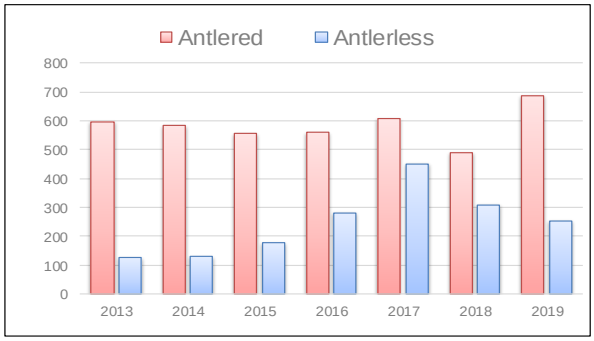
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	50%	37%	47%	72%	74%	-
Cow Survival	-	94%	92%	92%	100%	97%	97%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	343	422	513	526	589	678	796
Hunter Days	2,267	2,771	3,395	4,307	4,413	5,866	7,050
Antlered	21	28	50	56	59	65	78
Antlerless	81	105	116	106	91	60	146
Harvest	102	133	166	162	150	125	224
Success Rate	30%	32%	32%	31%	25%	18%	28%
% ≥6	10%	46%	34%	10%	29%	56%	38%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,972	2,175	2,036	2,123	2,214	2,166	2,080
Hunter Days	13,282	14,674	13,763	14,756	15,088	14,892	14,371
Antlered	575	557	506	505	547	423	608
Antlerless	0	5	0	6	0	1	0
Harvest	575	562	506	511	547	424	608
Success Rate	29%	26%	25%	24%	25%	20%	29%
% ≥6	19%	20%	25%	19%	24%	30%	21%
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	70	34	108	230	643	558	239
Hunter Days	345	202	797	1,024	2,850	2,913	1,143
Antlered	1	0	0	1	2	0	0
Antlerless	47	20	62	169	359	248	106
Harvest	48	20	62	170	361	248	106
Success Rate	69%	59%	57%	74%	56%	44%	44%
% ≥6	100%						
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,385	2,631	2,657	2,879	3,446	3,402	3,115
Hunter Days	15,894	17,647	17,955	20,087	22,351	23,671	22,564
Antlered	597	585	556	562	608	488	686
Antlerless	128	130	178	281	450	309	252
Harvest	725	715	734	843	1,058	797	938
Success Rate	30%	27%	28%	29%	31%	23%	30%
% ≥6	19%	21%	26%	18%	25%	34%	23%



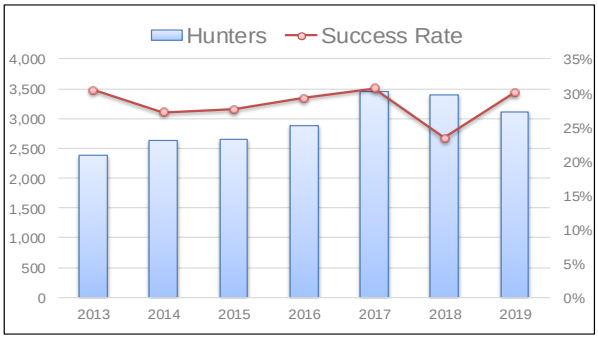


Figure 29. Salmon Zone Elk Status and Objectives.

Lemhi Zone (GMUs 29, 37, 37A, 51)

Historical Background

Elk abundance was low in Lemhi Zone through much of the twentieth century. However, as has occurred over much of the western United States, elk herds have expanded dramatically over the last couple decades. At the last abundance survey in 2018 the Lemhi Zone wintered approximately 5,062 elk.

In 1992, GMUs 29 and 37A contained strongly-performing elk populations; a base of 1,200 cows was producing 600 calves and 600 bulls. By 1998 and into 2003, the herd had increased to over 1,700 cows, but was still only producing 600 calves. This loss in productivity may have been related to density dependent factors such as limited forage. Between 2007 and 2011 the number of cows decreased to 1,300 while maintaining about 600 calves. In 2018, the number of cows increased to almost 1,500 and calves declined to about 400, indicating lower productivity.

Management Objectives

Objectives for Lemhi Zone are to maintain the elk population between 1,850–2,950 cows and 600–960 bulls. The Lemhi Zone has been defined as moderately limited by agricultural impacts, and thus harvest objectives are designed to maintain populations within objective while reducing private land depredations. In addition to mitigating depredation concerns with a robust elk population, there is consideration given to minimizing potential impacts on mule deer populations in the area. The current management direction for bulls is to maintain a high quality bull hunt through the controlled hunt system. Hunter opportunity is also a consideration and thus a general season archery hunt is currently in place.

Habitat Management and Monitoring

Cattle ranching, irrigated farming, and outdoor recreation are the dominant human uses of the landscape in Lemhi Zone. The zone is in a generally arid region where forage production can be strongly influenced by growing season precipitation. During drought years, mid- to low-elevation rangeland production can be greatly limited and competition between domestic livestock and elk increases. Elk depredations on agricultural crops are common and are especially pronounced in dry years and harsh winters. Changes in landowner demographics has led to more nontraditional uses of private lands in the Lemhi Zone and in many cases elk refuges have been created. This has led to an increase in depredation complaints on adjacent lands, and in many cases, altered elk spatial use of the landscape.

Elk winter range consists primarily of sagebrush steppe and stands of mountain mahogany in this zone. Spread of annual invasive grasses and noxious weeds, such as knapweed and leafy spurge, could ultimately have significant impacts on winter range productivity. This is of high concern in areas such as the Pahsimeroi River valley, where winter range is within close proximity to agricultural lands and reduced winter range quality might lead to increased depredation issues.

Biological Objectives

An abundance survey was conducted in the Lemhi Zone in 2018 and showed a stable population at the upper objective level for cows. However, calf ratios dropped from 44 in the 2011 survey to

23 in the 2018 survey. At the current female harvest rate and calf ratios, model projections are that cow numbers approach the midpoint of objective in a few years. Female harvest may have to then be adjusted to a level that maintains current objectives, while adequately addressing depredation issues.

Capture, Radio-mark, and or Telemetry

As part of IDFG's statewide elk population monitoring program, adult cows and 6–7 month old calves are often captured and fitted with GPS collars. Biological information is then collected to answer questions related to survival, cause specific mortality, body condition, pregnancy, and habitat use. In addition these collars are utilized to look at migrations and population connectivity. This information allows managers to make informed decisions regarding current and future species management. No new collars were deployed during FY20. Adult cow survival over the FY20 reporting period was 95%.

Population Surveys and Monitoring

An elk abundance helicopter survey was conducted in the Lemhi Zone in February of 2018. The results of this survey show a fairly stable population with a slight increase in overall elk numbers over the previous survey conducted in 2011. However, calf: cow ratios were found to be considerably lower than the previous survey, dropping from 44:100 cows to 23:100 cows. The winter of 2016-2017 was one of the most severe winters in recent history and might have led to poor body condition of elk going into the 2017 production year. Due to the lack of large scale collaring efforts in the Lemhi Zone this cannot be verified. Calf ratios and population changes will be monitored by managers to evaluate long-term effects.

Inter-specific Issues

The Lemhi Zone currently has relatively modest mule deer and whitetail populations and fairly robust rocky mountain bighorn sheep populations. Current high elk densities might be having some impact on deer and sheep winter range browse availability. Elk have the ability to browse forage at heights that reduce availability to the smaller statured deer and sheep, and thus anecdotally might decrease these species' winter forage availability and productivity, however, this has not been quantified to date.

Predation Issues

Black bear densities appear to be low and stable in Lemhi Zone. Mountain lion densities appear to be moderate and may have increased slightly as suggested by increased harvest levels in recent years. This could in part be due to prey abundance from robust elk populations. Coyotes are common, but not known to have much impact on elk populations. Wolf densities are low to moderate throughout the zone and do not appear to be impacting elk productivity.

Winter Feeding and Depredation

Elk depredations on growing and stored forage crops are common in this zone. Depredations typically increase as the forage base in the upper elevations starts to cure off. This normally occurs in late August to September. In addition, winter conditions can force elk into lower elevations where proximity to stored forage can lead to depredations. The IDFG funded 5

permanent stack yards during the FY20 reporting period to protect stored forage in this zone. In February of 2018, 12 GPS collars were deployed on adult cow elk that were located in chronic depredation areas. These collars were used to assess temporal and spatial use of the landscape by depredating elk. In addition, multiple depredation-focused antlerless hunts have been established to address private land depredations.

Winter feeding has not occurred in the Lemhi Zone in recent years.

Hunting and Harvest Characteristics

Most of the Zone has been managed for decades under conservative controlled hunt strategies. In 1993 GMU 51 changed from a general any-bull season structure to controlled any-bull tags with a general spike only season. About 1,400 people each year participated in rifle hunts in the Lemhi Zone through the late 1990s. Hunter numbers have since increased in recent years to approximately 3,000 annually. This is most likely due to increases in archery hunters and more liberal antlerless harvest opportunities.

Conservative bull harvest management has produced good bull-to-cow ratios and a reputation for mature bulls. The percent of 6-point bulls or better in the total harvest over the last 3 years averaged 47%. In 2019, the percent 6-point or better was 41% in the general A-tag harvest and 50% in the controlled any weapon hunts for a combined average of 47%.

Both hunter numbers and harvest for 2019 showed little change from the previous 3 years with harvest estimated at 991 elk and hunter numbers estimated at 2,891. The 2019 overall hunter success rate of 34% was identical to the three-year average of 34%.

Disease Monitoring

During the reporting period, disease monitoring in the Lemhi Zone consisted of the statewide standard monitoring of all captured and collared animals. This includes serological assessments on adults and yearling elk for selenium and trace elements, fecal parasites, pregnancy status disease serology for common domestic diseases: Bovine Respiratory Syncytial Virus (BRSV), Bovine Virus Diarrhea (BVD), Parainfluenza Virus 3 (PI3), Leptospirosis, Epizootic Hemorrhagic Disease (EHD)/Bluetongue (BT), Anaplasmosis; and ultrasound comparison to body condition scoring for overall health assessments.

In addition, we conducted voluntary chronic wasting disease and brucellosis monitoring. To date, no brucellosis or chronic wasting disease has been detected in the Lemhi Zone elk herd.

Management Discussion

Impacts of elk on mule deer production and survival are suspected but unknown. The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and still provide ample hunter opportunity. Additional elk collaring might be needed to determine elk movement between the Lemhi and Pioneer Zones as exchange between these populations is known, but the extents and impacts are not. Additional elk collaring may be needed in the Pahsimeroi River valley to further address elk refuge ranches and depredations. This collaring

data should allow us to more accurately address depredation issues without impacting the overall Zone population.

Elk Zone

Lemhi (GMU 29, 37, 37A, 51)

3-Year Averages (2017-2019)

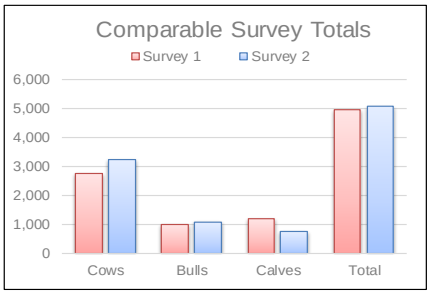
Hunters	2,952	Antlered	442
Hunter Days	20,410	Antlerless	574
Success	34%	% ≥6 Point	47%
Harvest	1,016		

Zone Characteristics

Square Miles	2,703
% Public Land	89%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2018	3,247	1,074	787	1,850-2,950	600-960	370-590
Bulls per 100 Cows			33	24		30-35	18-22



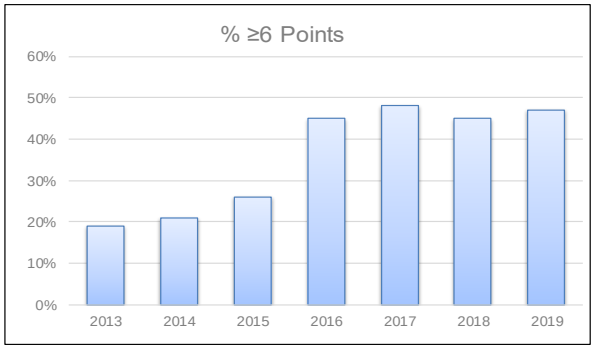
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
29, 37A	2011	1,381	562	590	2,533	2018	1,463	542	361	2,366
37	2011	614	246	315	1,175	2018	713	341	114	1,168
51	2011	758	197	301	1,256	2018	1,071	191	266	1,528
Comparable Surveys Total		2,753	1,005	1,206	4,964		3,247	1,074	741	5,062
Per 100 Cows			37	44				33	23	

Note: ND = no survey data available.

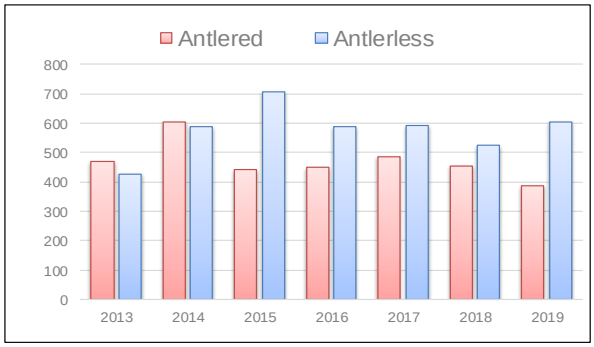
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	-	-	-	-	-	-
Cow Survival	-	62%	100%	80%	90%	100%	95%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,440	2,264	1,843	1,890	1,673	1,782	1,899
Hunter Days	10,721	15,860	13,775	13,340	12,519	14,214	15,801
Antlered	191	320	196	181	202	191	104
Antlerless	153	344	405	345	257	208	404
Harvest	344	664	601	526	459	399	508
Success Rate	24%	29%	33%	28%	27%	22%	27%
% ≥6	38%	30%	29%	27%	39%	35%	41%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	1,102	1,021	1,005	1,082	1,210	1,299	992
Hunter Days	5,976	5,334	5,052	5,975	6,090	7,430	5,176
Antlered	280	285	245	269	282	265	283
Antlerless	274	244	301	245	336	316	200
Harvest	554	529	546	514	618	581	483
Success Rate	50%	52%	54%	48%	51%	45%	49%
% ≥6	56%	43%	64%	57%	55%	52%	50%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,542	3,285	2,848	2,972	2,883	3,081	2,891
Hunter Days	16,697	21,194	18,827	19,315	18,609	21,644	20,977
Antlered	471	605	441	450	484	456	387
Antlerless	427	588	706	590	593	524	604
Harvest	898	1,193	1,147	1,040	1,077	980	991
Success Rate	35%	36%	40%	35%	37%	32%	34%
% ≥6	19%	21%	26%	45%	48%	45%	47%



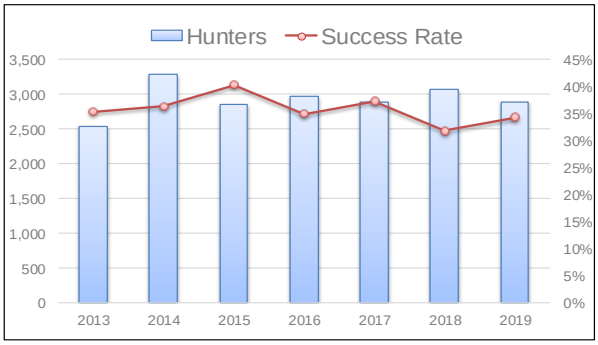


Figure 30. Lemhi Zone Elk Status and Objectives.

Beaverhead Zone (GMUs 30, 30A, 58, 59, 59A)

Historical Background

Elk abundance was low in Beaverhead Zone through much of the twentieth century. In fact, elk numbers were apparently low enough that a few elk from Horse Prairie and Yellowstone National Park were translocated to GMUs 30 and 30A around 1918. GMUs 30 and 30A were closed to hunting through the 1940s, managed as general hunts during the 1950s, and changed to general hunts with harvest quotas in the 1960s. Since 1970, GMUs 30 and 30A have been managed under very conservative controlled hunt strategies. Controlled antlerless hunts were initiated in GMUs 59 and 59A in 1979 and in GMU 58 in 1988. In 1991, GMUs 58, 59, and 59A changed from general any-bull management to general hunting for spike bulls with controlled any-bull tags. In 2010, general spike hunting was eliminated and muzzleloader antlerless hunting was initiated. As has occurred over much of the west, elk herds have expanded dramatically since the mid-1970s. Today, Beaverhead Zone winters approximately 5,000 elk and supports 2,000–2,300 hunters annually. Both hunter numbers and total harvest trended upward between 2009 and 2016.

Many elk in this zone spend winter in Idaho and migrate to summer ranges in Montana. However, since the early half of the 1980s, more elk in GMUs 58, 59, and 59A are wintering in Idaho. In recent years, high elk densities have become a controversial issue with landowners and livestock grazers in both states. The elk management strategy must include close coordination with Montana Fish Wildlife and Parks due to extensive and variable seasonal migrations across the state boundaries.

Management Objectives

The Beaverhead Elk Zone is a ‘moderately limited by agricultural impacts’ managed Zone per the IDFG 2014–2024 Elk Plan. Objectives for Beaverhead Zone (Figure 31) are to maintain elk populations within proposed objectives (2,050–3,075 cows and 555–830 bulls). To maintain herd productivity, balance depredation concerns with maintaining a reasonably large elk population, and minimize potential impacts on mule deer. A five-year period of herd reduction totaling about 40% was recommended in GMUs 30 and 30A during the late 1990s. Surveys in 2004 indicated populations were at or slightly below objective levels. Accordingly, cow harvest was reduced to maintain relatively high productivity and stabilize herd size. Surveys in 2009 revealed that cow numbers were at the upper end of the objective range and in 2016 cow numbers were over objective. Antlerless harvest has increased steadily since 2011. The most prominent increase in antlerless harvest has occurred within the agriculture interface to address depredation concerns.

Habitat Management and Monitoring

Cattle ranching, livestock grazing, and recreation are dominant human uses of the landscape in Beaverhead Zone. The zone is in a generally arid region where forage production can be strongly influenced by growing season precipitation. During drought years, high elevation mesic habitats are more heavily utilized by elk while low elevation riparian areas and wet meadows are more heavily utilized by cattle. Elk depredations on agricultural crops are common and are especially pronounced in dry years and harsh winters. Hunting near cultivated fields during August (known as Greenfield hunts) for antlerless elk was implemented in GMU’s 58, 59, 59A and from August through September for GMU 30 for the 2017/2018 hunting season to address these depredations.

In addition focused antlerless controlled hunts were initiated in GMU 30A to address depredation problems in that GMU.

Spread of annual invasive grasses and noxious weeds, such as knapweed and leafy spurge, could ultimately have significant impacts on winter range productivity. Elk wintering on windswept ridgetops in GMUs 59 and 59A are periodically subject to *Oxytropis* poisoning.

Biological Objectives

The elk population in GMU 30 experienced very high growth rates through the mid-1990s, despite attempts to increase antlerless harvest and considerable depredation hunt activity. GMUs 30A, 58, 59, and 59A show relatively stable populations. The most recent population survey indicates that calf production is increasing and bull:cow ratios are stable. The IDFG is collaring elk in the Zone to provide a better understanding of these migrations to improve management. Montana is collaring elk in the Tendoy's to this end as well, and to monitor for brucellosis. If brucellosis is detected, they will immediately provide a press release. Montana is pursuing additional cow harvest in their general season format to address high elk numbers on traditional winter ranges. Effective 'self-limiting' depredation cow hunt strategies in this Zone need to be flexible with long season dates and liberal tag allocations to harvest cows when they are a problem. However, the zone resident 'mountain elk' population in Idaho needs to be managed more conservatively. Managers should structure hunts so that depredation hunts do not unduly target these animals. In order to help answer these questions, GPS collars were deployed in GMU 30 on adult cow elk on agriculture fields to follow landscape usage and manage social carrying capacity. These collars were geographically focused rather than distributed across the landscape and may not represent zone level information.

Capture, Radio-mark, and or Telemetry

The IDFG deployed 8 depredation-focused GPS collars in GMU 30 in FY2017 and FY2018. These collars went onto adult antlerless elk on agriculture fields. They were deployed alongside the research collars as well as in ground-based trapping efforts, but were part of a geographically focused deployment rather than distributed across the landscape and thus may not be representative of zone-level survival. No capture or collaring activities took place during the FY20 reporting period.

Population Surveys and Monitoring

This zone was most recently surveyed in January 2016. Both antlered and antlerless elk numbers were above Plan objectives for this zone and calf:cow ratios were high at 44 calves per 100 cows. This population is growing. Antlerless hunting opportunity is good with harvest levels increasing annually. The three-year average success rate for all elk hunts in the zone is 34% (2017-2019).

Inter-specific Issues

Although historically the Beaverhead Zone supported high mule deer densities, the zone currently has relatively moderate deer populations. Current high elk densities may be having some impact on deer populations and/or winter range.

When elk numbers are high, as they are currently, livestock operators often perceive elk to be strong competitors for range forage. However, elk generally remove a minor portion of the forage compared to livestock. During some winters, elk move into GMU 63 and cause haystack depredations in the Monteview, Cedar Butte, and Beaver Creek areas. Due to the geography of the Lemhi Valley, elk depredation on stored forage as well as direct elk cattle interactions is typical in GMUs 30 and 30A. In addition, in drought years BLM permitted late fall and winter grazing may exacerbate this issue in the lower Lemhi Valley of GMU 30.

Predation Issues

Black bear densities appear to be low and stable in the Beaverhead Zone. Mountain lion densities are moderate and appear to have increased in recent years in GMUs 30 and 30A, probably partly due to increased elk densities. Coyotes are common, but not known to have much impact on elk populations. Wolf densities are relatively low and do not appear to be impacting elk populations.

Winter Feeding and Depredation

Because this is an arid area with relatively little snowfall, winter feeding has not recently occurred, although summer and winter depredation events are common in parts of the Zone. In late 2019, a group of 150-200 elk found haystacks in the southern ends of 59 and 59A on their migration route to GMU 63. North of Monteview, a group of 75-100 found multiple haystacks in the area.

Hunting and Harvest Characteristics

Total harvest in the Beaverhead Zone in 2019 was estimated at 916 elk based on mandatory harvest report cards. This is a 4% decrease in harvest from 2018 (956) and is slightly below the previous three-year average of 946. Total hunter numbers were estimated at 2,893 for 2019 compared to 2,759 hunters for 2018. An average of 51% of the bulls harvested in these GMUs over the past 3 years (2017–2019) have been 6-point or larger with a 34% hunter success rate (Figure 31).

Disease Monitoring

The Beaverhead Zone is outside of Idaho's Designated Surveillance Area (DSA) for brucellosis; however, the Zone is within one of 3 areas with focused brucellosis surveillance that rotates annually due to its proximity to the Idaho DSA. In addition, Montana expanded their DSA to the GMU 30A boundary in 2018. As a result, hired additional personnel to conduct brucellosis and chronic wasting disease sampling across the Sampling will continue wherever feasible including road kill and targeted outreach to sportsmen as well as opportunistic sampling during capture operations and depredation program activities, particularly when the potential for elk cattle interactions is elevated.

Management Discussion

Impacts of elk on mule deer production and survival are suspected but unknown. The most productive elk herds are those maintained at a level below carrying capacity. Better information is needed to identify appropriate elk densities that will maintain optimum productivity and harvest.

Elk Zone

Beaverhead (GMU 30, 30A, 58, 59, 59A)

3-Year Averages (2017-2019)

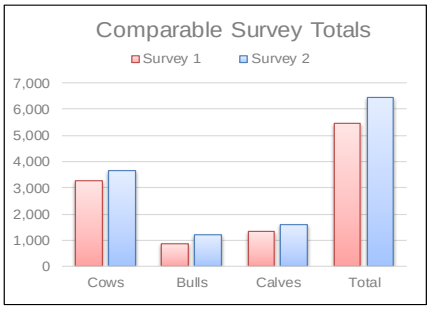
Hunters	2,753	Antlered	345
Hunter Days	20,092	Antlerless	589
Success	34%	% ≥6 Point	51%
Harvest	934		

Zone Characteristics

Square Miles	2,037
% Public Land	85%
Land Type	Rangeland Forest

Winter Status & Objectives

	Current Status				Objective		
	Year	Cows	Bulls	Adult Bulls	Cows	Bulls	Adult Bulls
Zone Total	2016	3,649	1,209	835	2,050-3,075	555-830	330-485
Bulls per 100 Cows			33	23		25-29	14-18



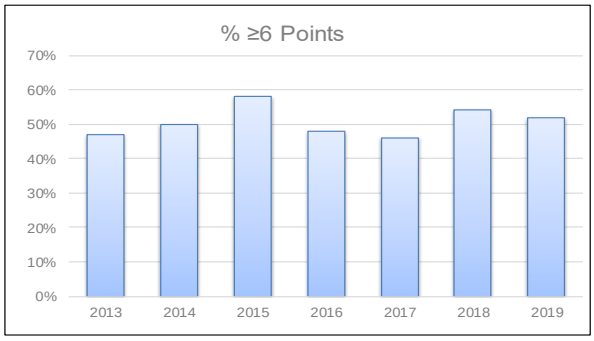
Population Surveys

	Survey 1					Survey 2				
GMU	Year	Cows	Bulls	Calves	Total	Year	Cows	Bulls	Calves	Total
30	2009	1,380	369	524	2,273	2016	1,527	438	568	2,533
30A	2009	142	161	58	361	2016	27	64	7	98
58	2009	824	180	351	1,355	2016	363	225	187	775
59/59A	2009	911	152	400	1,463	2016	1,732	482	819	3,033
Comparable Surveys Total		3,257	862	1,333	5,452		3,649	1,209	1,581	6,439
Per 100 Cows			26	41				33	43	

Note: ND = no survey data available.

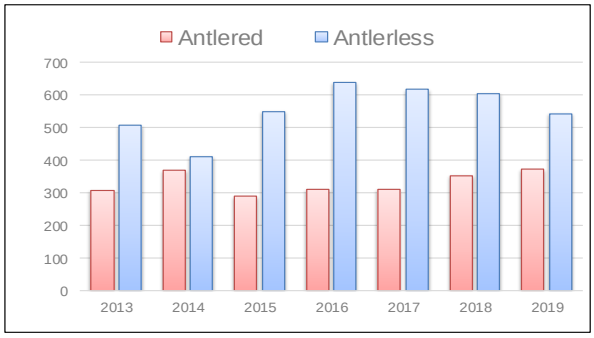
Population Parameters

	2014	2015	2016	2017	2018	2019	2020
Calf Survival	-	78%	79%	96%	77%	81%	-
Cow Survival	-	67%	92%	100%	94%	98%	97%



Zone Harvest Characteristics

"A" Tag	2013	2014	2015	2016	2017	2018	2019
Hunters	1,311	1,831	1,471	1,454	1,519	1,703	1,904
Hunter Days	10,011	14,973	11,202	12,328	12,624	15,073	15,745
Antlered	156	267	166	161	138	200	234
Antlerless	212	77	152	238	177	213	266
Harvest	368	344	318	399	315	413	500
Success Rate	28%	19%	22%	27%	21%	24%	26%
% ≥6	47%	49%	57%	40%	31%	50%	48%
"B" Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	0	0	0	0	0	0	0
Hunter Days							
Antlered							
Antlerless							
Harvest	0	0	0	0	0	0	0
Success Rate							
% ≥6							
CH Tag	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	807	863	822	969	1,087	1,056	989
Hunter Days	4,616	4,622	3,484	5,043	5,382	5,633	5,820
Antlered	150	102	124	150	174	151	138
Antlerless	297	335	397	401	442	392	278
Harvest	447	437	521	551	616	543	416
Success Rate	55%	51%	63%	57%	57%	51%	42%
% ≥6	48%	51%	61%	56%	59%	59%	60%
All Elk Tags	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
Hunters	2,118	2,694	2,293	2,423	2,606	2,759	2,893
Hunter Days	14,627	19,595	14,686	17,371	18,006	20,706	21,565
Antlered	306	369	290	311	312	351	372
Antlerless	509	412	549	639	619	605	544
Harvest	815	781	839	950	931	956	916
Success Rate	38%	29%	37%	39%	36%	35%	32%
% ≥6	47%	50%	58%	48%	46%	54%	52%



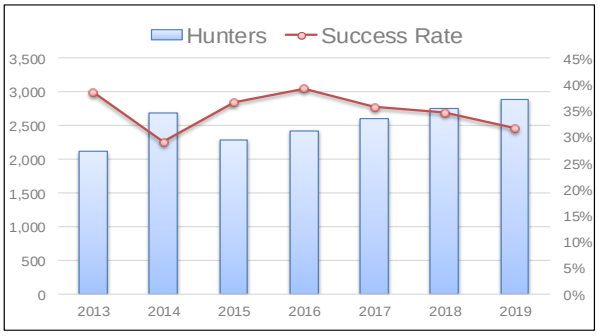


Figure 31. Beaverhead Zone Elk Status and Objectives.

Appendix A

IDAHO

2020 SEASON

ELK RULES

Idaho Big Game
2019 & 2020 Seasons & Rules

1st Edition 2019

Controlled Hunt Application Periods
Deer, Elk, Pronghorn & Fall Black Bear: May 1 - June 5
Spring Black Bear: January 15 - February 15

Deer, Elk, Pronghorn Seasons: August 2019 - February 2020 & August 2020 - February 2021
Black Bear, Mountain Lion Seasons: August 2019 - July 2020 & August 2020 - July 2021
Gray Wolf Seasons: July 2019 - June 2020 & July 2020 - June 2021
Including Controlled Hunts for Deer, Elk, Pronghorn and Black Bear

idfg.idaho.gov

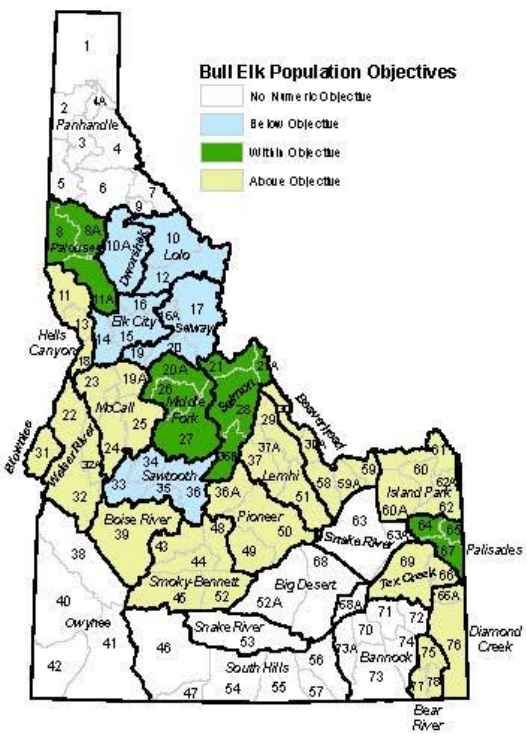
2019 ELK POPULATION STATUS BY ELK ZONE

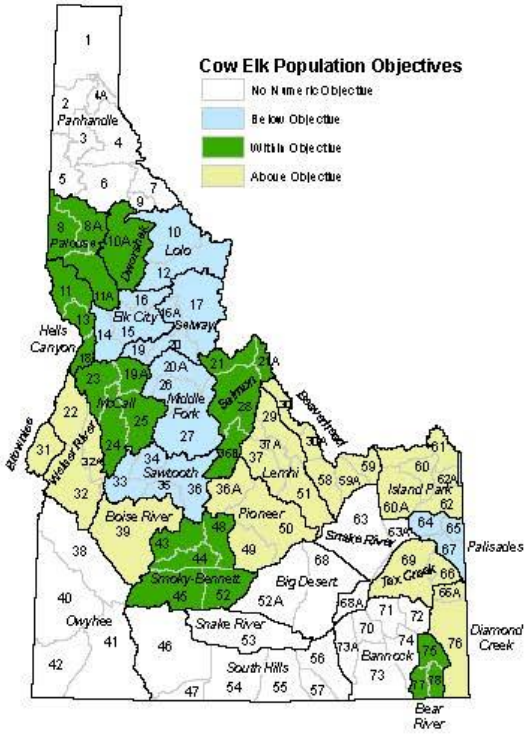
Elk populations fluctuate constantly in response to weather, predation, land management actions, fire events, invasive species, private land use, and development. To maintain elk hunting experiences desired by sportsmen, the Idaho Department of Fish and Game manages herds within desired ranges by adjusting hunting seasons and hunter numbers to provide high quality hunting opportunities, maintain availability of general season hunts with over-the-counter tag sales, and minimize conflicts with agriculture. Fish and Game also works closely with land managers and private landowners to ensure the existence of high quality elk habitat throughout the state. In 2014 the boundaries of a few elk zones were modified to better match up with elk populations and their seasonal movements.

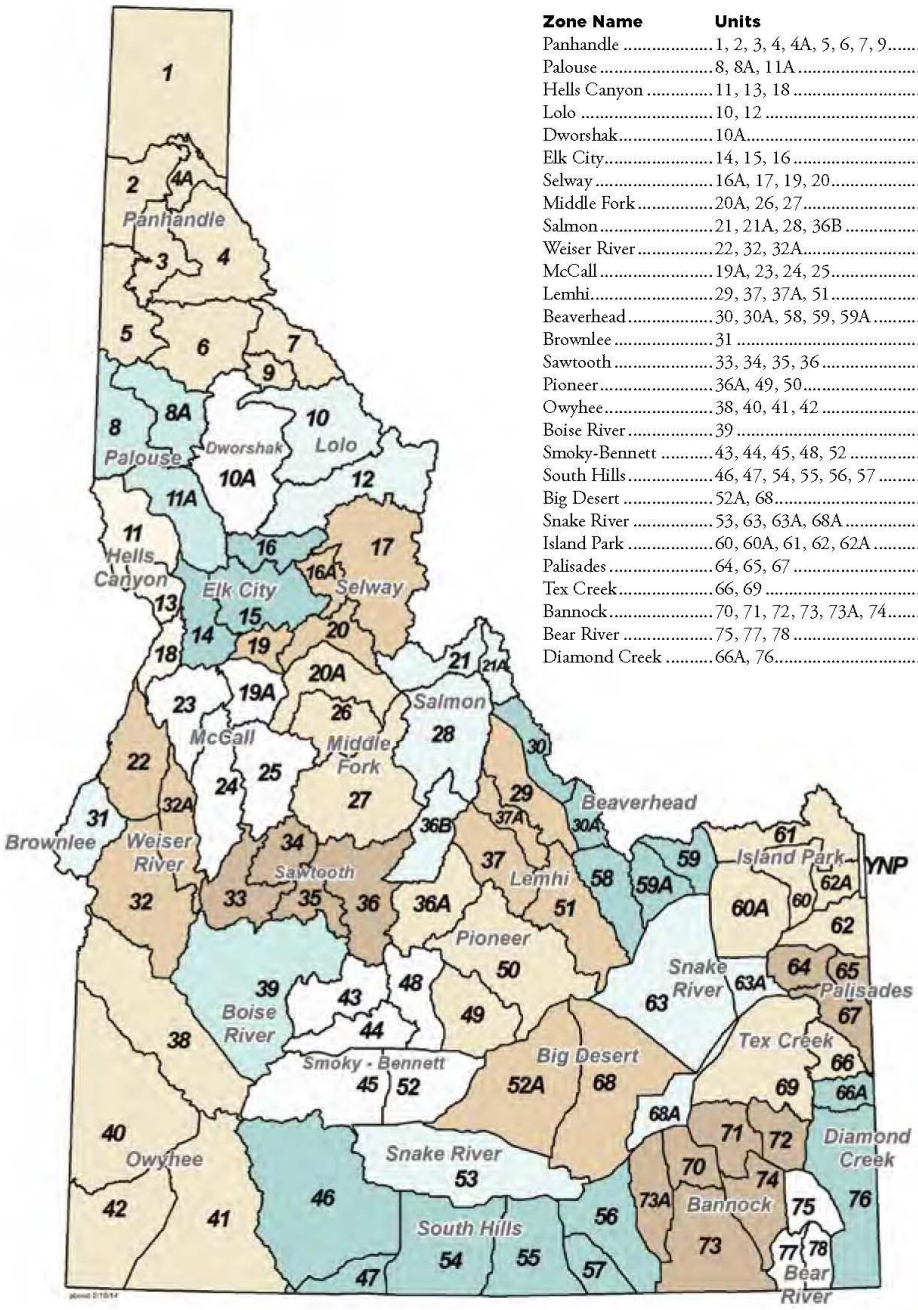
Elk herds currently are within or above management objectives in 16 of 22 elk management zones that have established numeric objectives for number of cow elk, and in 17 of 22 zones with set objectives for number of bull elk. Hunting opportunities in these zones range from trophy quality bull hunts to "extra" cow hunts. In the handful of zones that are not currently meeting objectives, Fish and Game is working hard to improve elk survival and increase the populations by reducing or eliminating cow harvest, adjusting bull harvest, and intensively managing predators to reduce the impacts of predation on those herds.

Changing conditions and management challenges have always been part of the landscape, but with responsive management and more than 120,000 elk, Idaho continues to provide an incredible variety of excellent elk hunting opportunities desired by sportsmen.

For additional information on elk management objectives and hunter success rates, please visit our website at: **idfg.idaho.gov/hunt/elk**.







Zone Name	Units	Page Number
Panhandle	1, 2, 3, 4, 4A, 5, 6, 7, 9	35
Palouse	8, 8A, 11A	35
Hells Canyon	11, 13, 18	36
Lolo	10, 12	36
Dworshak	10A	36
Elk City	14, 15, 16	37
Selway	16A, 17, 19, 20	37
Middle Fork	20A, 26, 27	38
Salmon	21, 21A, 28, 36B	38
Weiser River	22, 32, 32A	39
McCall	19A, 23, 24, 25	40
Lemhi	29, 37, 37A, 51	40
Beaverhead	30, 30A, 58, 59, 59A	41
Brownlee	31	41
Sawtooth	33, 34, 35, 36	42
Pioneer	36A, 49, 50	42
Owyhee	38, 40, 41, 42	43
Boise River	39	43
Smoky-Bennett	43, 44, 45, 48, 52	43
South Hills	46, 47, 54, 55, 56, 57	44
Big Desert	52A, 68	44
Snake River	53, 63, 63A, 68A	45
Island Park	60, 60A, 61, 62, 62A	45
Palisades	64, 65, 67	45
Tex Creek	66, 69	46
Bannock	70, 71, 72, 73, 73A, 74	46
Bear River	75, 77, 78	46
Diamond Creek	66A, 76	47

2019 & 2020 ELK HUNTING SEASONS

Elk hunting is managed in 28 elk zones. Idaho has a two-tag system to offer elk hunters the most general season choices. Hunters may select one zone and choose either an "A tag" or a "B tag" for that zone. Some zones offer only an A tag. In general, A tags provide more opportunity for muzzleloader and archery hunters, and B tags provide more opportunity for centerfire rifle hunters.

Controlled hunts, allocated by random drawing, are also available in most of the state. Any person who receives a controlled hunt tag for elk is prohibited from hunting in any other elk hunt, **except** for depredation hunts, extra antlerless elk hunts or by buying a leftover nonresident elk tag, if available.

Unsold Nonresident Tags: Residents and nonresidents may buy one unsold nonresident general season deer and/or elk tag at the nonresident price, starting August 1, to be used as a second tag ***except*** second deer tags cannot be used in Units 10, 10A, 12, 16A, 17, 19 and 20. Second elk tags are not available for the Elk City Zone.

Antlered elk: Only elk with at least one antler longer than 6 inches may be taken in any season which is open for antlered elk only. In antlered seasons, including spike-only, antlers must accompany the carcass while in transit.

Antlerless elk: Only elk without antlers or with antlers shorter than 6 inches may be taken in any season which is open for antlerless elk only.

Spike elk: Only elk with no branching on either antler and at least one antler longer than 6 inches may be taken in any season which is open for spike elk only. A branch is an antler projection at least 1 inch long and longer than the width of the projection.

Brow-tined elk: Only elk having at least one antler with a visible point on the lower half of the main beam which is 4 inches or greater in length may be taken in any season open for brow-tined elk only.

ELK

Archery & Muzzleloader Permits

Any person hunting in an "archery only" season, including controlled hunts, must have their license with archery permit validation. Any person hunting in a "muzzleloader" only season, including controlled hunts, must have their license with muzzleloader permit validation.

Youth Only Hunt: Some elk hunts are for youth only. See page 111 for more information.

Junior Resident General Elk Tag

Junior resident elk hunters who purchase a general season elk zone tag while they are between ages 10 and 17, inclusive, may participate in any A or B tag elk season within the specified zone, regardless of whether they purchased an A tag or B tag. All other season, weapon restrictions, and commission rules apply. Controlled hunts are excluded.

Nonresident Deer and Elk Tags

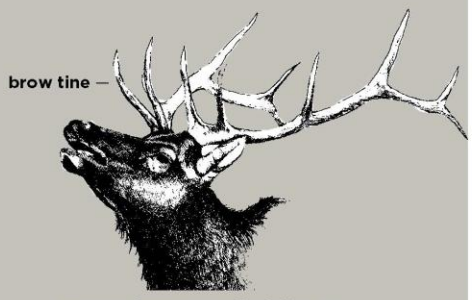
Nonresident deer and elk tags, **excluding** Nonresident Junior Mentored/DAV deer and elk tags, are valid to take a black bear, mountain lion or gray wolf instead of a deer or elk, if a season is open for that species, where and when the deer or elk tag is valid, and if there is an open deer or elk season in that same unit, see page 112.

Chronic Wasting Disease: See page 31 for more information.

Legal in spike elk hunts
SPIKE ELK
One antler must be at least 6 inches or longer. (Not legal in brow-tined elk hunts.)

Not legal in spike elk hunts or brow-tined elk hunts
BRANCH ANTLERED BULL (or larger)
Not legal for spike-only hunts if branched point is longer than 1 inch.

Antler branch is a projection 1 inch or more in length.



Legal in brow-tined elk hunts

Caution - Archers and Muzzleloaders:

"Any weapon" hunts will be open during the archery or muzzleloader season in all or parts of the following zones: Palouse, Salmon, Weiser River, McCall, Lemhi, Beaverhead, Brownlee, Pioneer, Boise River, Smoky-Bennett and South Hills. Please use appropriate caution.

Panhandle Zone (Units 1, 2, 3, 4, 4A, 5, 6, 7, 9)				
	September	**October**	**November**	**December**
A Tag	**Archery only** — antlered **only** Sep 6 - Sep 30	**Any weapon** — antlered **only** Oct 25 - Oct 29	**Muzzleloader only** — antlered **only** Units 4, 7 & 9 **only** Nov 20 - Dec 1	**Muzzleloader only** — antlerless **only** Within 1 mile of private land in the following Units: 1, 2, 3, 4A & 5 **only** See Note B below Dec 2 - Dec 8
	Archery only — any elk Within 1 mile of private land in the following Units: 1, 2, 3, 4, 4A, 5 & 6 **only** See Notes A & B below Sep 15 - Sep 21			**Archery only** — antlered **only** Dec 10 - Dec 16
B Tag	**Archery only** — antlered **only** Sep 6 - Sep 12	**Any weapon** — antlered **only** Oct 10 - Oct 24		**Muzzleloader only** — antlerless **only** Within 1 mile of private land in the following Units: 1, 2, 3, 4A & 5 **only** See Note B below Dec 2 - Dec 8
		Any weapon — any elk Within 1 mile of private land in the following Units: 1, 2, 3, 4, 4A, 5 & 6 **only** See Notes A & B below Oct 15 - Oct 17		
Note A	That portion of Unit 4 within the following boundary: starting at the junction of State Highway 97 and State Highway 3 near Harrison, then north on State Highway 3 to Interstate 90, then East on Interstate 90 to Kingston, then north and east on Forest Service Road 9 (CDA River Road) to the Montana border, and then follow the Unit 4 boundary south and west to the point of beginning.			
Note B	That portion of Unit 4A within the following boundary: starting at the mouth of the Clark Fork River, follow Johnson Creek FS Road 278, then south on FS Road 1066, then east on FS Road 332 to the Montana border, and follow Montana border north back to the Clark Fork River, then to the point of beginning.			

Palouse Zone (Units 8, 8A, 11A)				
	August/September	**October**	**November**	**December**
A Tag	**Any weapon** — antlerless **only** On or within 1 mile of private agricultural lands, See Note 1, Page 47 Aug 1 - Sep 15			**Muzzleloader only** — spike or antlerless: Dec 2 - Dec 5 spike **only**: Dec 6 - Dec 14
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep 14 **See archers caution Page 34**	**Any weapon** — antlered **only** Oct 10 - Oct 24		

ELK

Hells Canyon Zone (Units 11, 13, 18) — Controlled Hunts Only	
A Tag	**No A Tags in this Zone — See Controlled Hunts**
B Tag	**No B Tags in this Zone — See Controlled Hunts**

Lolo Zone (Units 10, 12)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — antlered **only** Aug 30 - Sep 30			
	Note: 404 A Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	
B Tag		**Any weapon** — antlered **only** Oct 10 - Nov 3		
	Note: 1,088 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Dworshak Zone (Unit 10A)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30			**Muzzleloader only** — spike or antlerless: Dec 2 - Dec 5 spike **only**: Dec 6 - Dec 14
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep 14	**Any weapon** — antlered **only** Oct 10 - Nov 3		
	Note: 2,380 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Elk City Zone (Units 14, 15, 16)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Unit 15 **only** Aug 30 - Sep 30		**Muzzleloader only** — spike or antlerless Units 14 & 16 **only**: Nov 21 - Nov 24	**Archery only** — spike or antlerless Unit 15 **only:** Dec 5 - Dec 8
			Muzzleloader only — spike **only** Units 14 & 16 **only**: Nov 25 - Dec 9	**Archery only** — spike **only** Unit 15 **only:** Dec 9 - Dec 20
	Note: 628 A Tag Quota Available First-Come, First-Served. ***Second RES-NONRES elk tags are not available.***		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	
B Tag		**Any weapon** — antlered **only** Oct 10 - Oct 24		
	Note: 1,432 B Tag Quota Available First-Come, First-Served. ***Second RES-NONRES elk tags are not available.***		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Selway Zone (Units 16A, 17, 19, 20)				
	September	**October**	**November**	**December**
A Tag		**Any weapon** — antlered **only** Oct 1 - Oct 31		
	Note: 647 A Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	
B Tag	**Any weapon** — antlered **only** Sep 15 - Sep 30		**Any weapon** — antlered **only** Nov 1 - Nov 11	
	Note: 1,067 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Middle Fork Zone (Units 20A, 26, 27)				
	September	**October**	**November**	**December**
A Tag		**Any weapon** — Units 20A & 26: antlered **only** Unit 27: brow-tined bulls **only** Oct 1 - Oct 31		
	Note: 1,551 A Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	
B Tag	**Any weapon** — Units 20A & 26: antlered **only** Unit 27: brow-tined bulls **only** Sep 15 - Sep 30		**Any weapon** — Units 20A & 26: antlered **only** Unit 27: brow-tined bulls **only** Nov 1 - Nov 18	
	Note: 1,636 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Salmon Zone (Units 21, 21A, 28, 36B)				
	August/September	**October**	**November**	**December**
A Tag	**Any weapon** — antlerless **only** Units 21A, 28 & 36B **only** Aug 1 - Oct 31 On or within 1 mile of private irrigated agricultural lands, ***excluding*** all downstream drainages to the Salmon River beginning with the Tower Creek drainage in Unit 21A and beginning with the Bird Creek drainage in Unit 28, and excluding the Morgan Creek Drainage in Unit 36B, See Note 2, Page 47			**Archery only** — any elk Unit 28 **only** Dec 1 - Dec 31
	Archery only — any elk Units 21, 21A & 36B **only** Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag		**Any weapon** — antlered **only** Oct 15 - Nov 8		
	Note: 2,507 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Weiser River Zone (Units 22, 32, 32A) Motorized Hunting Rule Applies in Units 32 & 32A, August 30 - December 31, See Pages 104 - 106				
	August/September	**October**	**November**	**December**
A Tag	**Short range weapons only** — antlerless **only** Units 22 & 32A only: Aug 15 - Sep 30 Outside National Forest System Boundary **only**, See Note A below	**Youth Hunt only** **Any weapon** — antlerless **only** Oct 1 - Oct 9 Short range weapons **only** on Montour WMA		
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**	**Any weapon** — antlerless **only** Oct 10 - Oct 16 Short range weapons **only** on Montour WMA		
B Tag		**Any weapon** — antlered **only** Oct 25 - Nov 3 Short range weapons **only** on Montour WMA	**Any weapon** — antlerless **only** Nov 4 - Nov 18 All of Unit 32 and those portions of Units 22 and 32A outside National Forest System Boundary, See Note A below, Short range weapons **only** on Montour WMA	
	Note: 4,000 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	
Note A	**Note A** - You may hunt only outside the National Forest System Boundary. The National Forest System Boundary is a legislatively set boundary - it is not necessarily the boundary of Forest Service property. State, private, and other lands within the National Forest System Boundary are not open to hunting during this season. (Please refer to a U.S. Forest Service map for the location of this boundary.)			

ELK

McCall Zone (Units 19A, 23, 24, 25)

	August/September	October	November	December
A Tag	**Short range weapons only** — antlerless **only** Units 23 & 24 **only** Outside National Forest System Boundary **only**, See Note A below Aug 15 - Sep 30 *Extremely limited access because of private property*	**Any weapon** — spike **only** Short range weapons **only** within described boundaries in Unit 24, See Note B below Oct 5 - Oct 14	**Short range weapons only** — antlerless **only** Units 23 & 24 **only** Nov 10 - Nov 30	
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag		**Any weapon** — antlered **only** Oct 15 - Nov 3 Short range weapons **only** within described boundaries, See Note B below.		
Note A	You may hunt only outside the National Forest System Boundary. The National Forest System Boundary is a legislatively set boundary - it is not necessarily the boundary of Forest Service property. State, private, and other lands within the National Forest System Boundary are not open to hunting during this season. (Please refer to a U.S. Forest Service map for the location of this boundary.)			
Note B	Short range weapons only in that portion of Unit 24 within the following boundary: Beginning in McCall at the junction of State Highway 55 and Boydstun Street, then south on Boydstun Street to West Valley Road, then west and south along West Valley Road and West Mountain Road to Cabarton Road, then north on Cabarton Road to State Highway 55, then north on State Highway 55 to Farm-To-Market Road, then north on Farm-To-Market Road to Elo Road, then west on Elo Road to State Highway 55, then north on State Highway 55 to the point of beginning.			

Lemhi Zone (Units 29, 37, 37A, 51)

Motorized Hunting Rule Applies, August 30 - December 31, See Pages 104 - 106

	August/September	October	November	December
A Tag	**Any weapon** — antlerless **only** Units 29, 37 & 37A **only**: Aug 1 - Nov 30 On or within 1 mile of private irrigated agricultural lands, See Note 2, Page 47			
	Any weapon — antlerless **only** Unit 51 **only**: Aug 1 - Aug 29 On or within 1 mile of private agricultural lands outside the National Forest System Boundary, See Note 3, Page 47			**Muzzleloader only** — antlerless **only** Nov 25 - Dec 9
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Beaverhead Zone (Units 30, 30A, 58, 59, 59A) Motorized Hunting Rule Applies, August 30 - December 31, See Pages 104 - 106				
	August/September	**October**	**November**	**December**
A Tag	**Any weapon** — antlerless **only** Units 58, 59 & 59A **only**: Aug 1 - Aug 29 On or within 1 mile of private agricultural lands outside the National Forest System Boundary, See Note 3, Page 47	**Muzzleloader only** — antlerless **only** Oct 15 - Oct 31		
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
	Any weapon — antlerless **only** Unit 30 **only**: Aug 1 - Nov 30 On or within 1 mile of private irrigated agricultural lands, See Note 2, Page 47			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Brownlee Zone (Unit 31)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
	Short range weapons only — antlerless **only**, Aug 15 - Sep 30 On or within 1 mile of private agricultural lands outside the National Forest System Boundary, See Note 3, Page 47			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Sawtooth Zone (Units 33, 34, 35, 36)				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30			
	Note: 1,000 A Tag Quota Available First-Come, First-Served. **Resident capped tag sales will be sold separately at vendors and online.** **See Note A below**		2019 Capped tags go on sale for Residents 7/12/2019 and Nonresidents 5/10/2019	
			2020 Capped tags go on sale for Residents 7/13/2020 and Nonresidents 5/11/2020	
B Tag		**Any weapon** — antlered **only** Oct 15 - Nov 8		
	Note: 1,800 B Tag Quota Available First-Come, First-Served. **Resident capped tag sales will be sold separately at vendors and online.** **See Note A below**		2019 Capped tags go on sale for Residents 7/12/2019 and Nonresidents 5/10/2019	
			2020 Capped tags go on sale for Residents 7/13/2020 and Nonresidents 5/11/2020	
Note A	Resident Sawtooth Zone A and B tags will be sold separately from other resident tag sales on 7/12/2019, *two days after other resident tags*, (7/13/2020 for 2020). Half of the tags will be sold at license vendors **only** starting at 10 A.M. MT. The remaining half of the resident tags will be sold online **only** starting at 1 P.M. MT. Nonresident Sawtooth tags will go on sale at 10 A.M. MT on 5/10/2019 (5/11/2020 for 2020) across all sales venues.			

Pioneer Zone (Units 36A, 49, 50) Motorized Hunting Rule Applies, August 30 - December 31, See Pages 104 - 106				
	August/September	October	November	December
A Tag	**Any weapon** — antlerless **only** Unit 50 **only**: Aug 1 - Aug 29 On or within 1 mile of private agricultural lands outside the National Forest System Boundary, See Note 3, Page 47			
	Archery only — any elk Aug 30 - Sep 30 **See archers caution Page 34**			
	Any weapon — antlerless **only** Unit 36A **only**: Aug 1 - Nov 30 On or within 1 mile of private irrigated agricultural lands, See Note 2, Page 47			
B Tag			**Any weapon** — antlerless **only** Nov 1 - Dec 7	
	Note: 2,500 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 5/10/2019	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Owyhee Zone (Units 38, 40, 41, 42) — Controlled Hunts Only				
	August/September	October	November	December
A Tag	**No A Tags in this Zone — See Controlled Hunts**			
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

Boise River Zone (Unit 39)				
	September	October	November	December
A Tag			**Archery only** — any elk Nov 10 - Nov 30 See Note A below, **See archers caution Page 34**	
B Tag			**Any weapon** — antlered **only** Nov 1 - Nov 9 Portion of Unit **closed**, See Note B below	
Note A	**Unit 39 Archery Hunt CLOSED Area:** That portion of Unit 39 within Ada County, and that portion of Unit 39 within the following boundary: Beginning at the intersection of State Highway 21 and the Middle Fork Boise River Road (Forest Road 268), east on Forest Road 268 to Cottonwood Creek-Thorn Creek Road (Forest Road 377), to South Fork of Thorn Creek to confluence of Thorn Creek, north and west on Thorn Creek to the confluence with Mores Creek, south and west along the center of Mores Creek including the Mores Creek arm of Lucky Peak Reservoir to Highway 21 to the point of beginning is **closed**.			
Note B	**Portion of Unit 39 closed:** That portion of Unit 39 south and east of Blacks Creek Road and south of the South Fork of Boise River is **closed**.			

Smoky-Bennett Zone (Units 43, 44, 45, 48, 52) Motorized Hunting Rule Applies in Units 45 & 52, August 30 - December 31, See Pages 104 - 106				
	August/September	October	November	December
A Tag	**Archery only** — any elk Units 43 & 48 **only**: Aug 30 - Sep 30 **See archers caution Page 34**			
B Tag			**Any weapon** — antlerless **only** Units 45 & 52 **only** Nov 1 – Nov 30	
	Note: 2,500 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

ELK

South Hills Zone (Units 46, 47, 54, 55, 56, 57)

Motorized Hunting Rule Applies in Units 47 & 56, August 30 - December 31, See Pages 104 - 106

	August/September	October	November	December
A Tag	**Archery only** — any elk Units 55, 56 & 57 **only** Aug 30 - Sep 30 **See archers caution Page 34**			
	Any weapon — any elk Unit 46 **only**: Aug 1 – Nov 30 On or within 1 mile of private agricultural lands, See Note 1, Page 47			
B Tag	**Any weapon** — antlerless **only** Unit 54 **only:** Aug 1 – Aug 29 Outside National Forest System Boundary, See Note A below			**Any weapon** — antlerless **only** Unit 54 **only:** Dec 1 – Dec 15 Outside National Forest System Boundary, See Note A below
	Note: 500 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	
Note A	You may hunt only outside the National Forest System Boundary. The National Forest System Boundary is a legislatively set boundary - it is not necessarily the boundary of Forest Service property. State, private, and other lands within the National Forest System Boundary are not open to hunting during this season. (Please refer to a U.S. Forest Service map for the location of this boundary.)			

Big Desert Zone (Units 52A, 68)

Motorized Hunting Rule Applies in Unit 52A, August 30 - December 31, See Pages 104 - 106

	August/September	October	November	December
A Tag	**Archery only** — any elk Aug 30 - Sep 30			
	Archery only — any elk Unit 68 **only**: Aug 1 - Aug 30 On or within 1 mile of private agricultural lands, See Note 1, Page 47			
B Tag			**Any weapon** — antlerless **only** Unit 52A **only:** Nov 1 - Nov 30	
	Note: 500 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 5/10/2019	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

<table>
<tr><th colspan="5">Snake River Zone (Units 53, 63, 63A, 68A)
Motorized Hunting Rule Applies in Unit 53, August 30 - December 31, See Pages 104 - 106</th></tr>
<tr><th></th><th>August/September</th><th>October</th><th>November</th><th>December</th></tr>
<tr><td rowspan="3">A Tag</td><td rowspan="2">Short range weapons only — any elk
Unit 63A only: Aug 1 - Aug 31</td><td colspan="2">Short range weapons only — antlerless only
Unit 63A only: Sep 1 - Nov 30</td><td></td></tr>
<tr><td>Archery only — any elk
Unit 68A only: Aug 1 - Sep 30</td><td colspan="3">Archery only — antlerless only
Unit 68A only: Oct 1 - Dec 31</td></tr>
<tr><td colspan="4">Short range weapons only — any elk
Unit 53 only: Aug 1 - Dec 31</td></tr>
<tr><td>B Tag</td><td colspan="4">No B Tags in this Zone — See Controlled Hunts</td></tr>
</table>

<table>
<tr><th colspan="5">Island Park Zone (Units 60, 60A, 61, 62, 62A)</th></tr>
<tr><th></th><th>August/September</th><th>October</th><th>November</th><th>December</th></tr>
<tr><td>A Tag</td><td>Archery only — any elk
Aug 30 - Sep 30</td><td>Any weapon — spike only
Oct 15 - Oct 28
Short range weapons only on
Chester Wetlands WMA</td><td colspan="2">Muzzleloader only — spike or antlerless
Unit 61 only
Nov 11 - Dec 9</td></tr>
<tr><td>B Tag</td><td colspan="4">No B Tags in this Zone — See Controlled Hunts</td></tr>
</table>

<table>
<tr><th colspan="5">Palisades Zone (Units 64, 65, 67)</th></tr>
<tr><th></th><th>August/September</th><th>October</th><th>November</th><th>December</th></tr>
<tr><td>A Tag</td><td>Archery only — any elk
Aug 30 - Sep 30</td><td colspan="2">Any weapon — antlerless only
Oct 22 - Nov 16</td><td></td></tr>
<tr><td>B Tag</td><td>Archery only — spike or antlerless
Aug 30 - Sept 14</td><td>Any weapon — antlered only
Oct 15 - Oct 21</td><td colspan="2"></td></tr>
</table>

ELK

Tex Creek Zone (Units 66, 69) Motorized Hunting Rule Applies, August 30 - December 31, See Pages 104 - 106				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30	**Any weapon** — antlerless **only** Oct 22 - Oct 31		
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep 14	**Any weapon** — antlered **only** Oct 15 - Oct 21		

Bannock Zone (Units 70, 71, 72, 73, 73A, 74) Motorized Hunting Rule Applies in Units 70, 72 & 73, August 30 - December 31, See Pages 104 - 106				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30	**Any weapon** — antlerless **only** Oct 25 - Nov 15		**Muzzleloader only** — antlerless **only** Dec 1 - Dec 31
			Any weapon — antlerless **only** Portion of Unit 74 **only**: Nov 16 – Dec 31 See Note A below	
B Tag	**No B Tags in this Zone — See Controlled Hunts**			
Note A	That portion of Unit 74 within Franklin County, and that portion of Unit 74 within the following boundary: Beginning at the intersection of State Highway 91 and Red Rock Road, east on Red Rock Road to Cottonwood Road, then north on Cottonwood Road to Johnson Road, then south on Johnson Road to the Franklin County boundary, then south and west along the Franklin County boundary to Highway 91, then west and north on Highway 91 to the starting point.			

Bear River Zone (Units 75, 77, 78) Motorized Hunting Rule Applies, August 30 - December 31, See Pages 104 - 106				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30	**Any weapon** — antlerless **only** Oct 25 - Nov 15		**Muzzleloader only** — antlerless **only** Dec 1 - Dec 31
B Tag	**Archery only** — spike or antlerless Aug 30 - Sep14	**Any weapon** — antlered **only** Oct 15 - Oct 24		
	Note: 550 B Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019	

Diamond Creek Zone (Units 66A, 76) Motorized Hunting Rule Applies, August 30 - December 31, See Pages 104 - 106				
	August/September	**October**	**November**	**December**
A Tag	**Archery only** — any elk Aug 30 - Sep 30			
	Note: 1,836 A Tag Quota Available First-Come, First-Served.		2019 Capped tags go on sale for Residents 7/10/2019 and Nonresidents 12/1/2018	
			2020 Capped tags go on sale for Residents 7/10/2020 and Nonresidents 12/1/2019.	
B Tag	**No B Tags in this Zone — See Controlled Hunts**			

ELK GENERAL SEASON SPECIAL AREA DEFINITIONS AND DESCRIPTIONS

Notes:

1. "Private agricultural lands" are defined as private lands that are used for growing or storing plants for profit, in the form of pasture or stored feed for animal production, croplands, nurseries, vineyards, or orchards, but which do not include private timberlands.

2. "Private irrigated agricultural lands" are defined as private ***irrigated*** lands that are used for growing or storing plants for profit, in the form of pasture or stored feed for animal production, croplands, nurseries, vineyards, or orchards, but which do not include private timberlands.

3. Outside the National Forest System Boundary in Lemhi, Beaverhead, Brownlee, and Pioneer Zones: — Antlerless Hunts: These hunts are open only outside the National Forest System Boundary on or within 1 mile of private agricultural lands which is defined as private lands that are used for growing or storing plants for profit, in the form of pasture or stored feed for animal production, croplands, nurseries, vineyards, or orchards, but which do not include private timberlands. The National Forest System Boundary is a legislatively set boundary — it is not necessarily the boundary of Forest Service property. State, private and other lands within the National Forest System Boundary are not open to hunting during this season. (Please refer to a U.S. Forest Service map for the location of this boundary.)

For details on controlled hunt rules and restrictions please see pages 108 - 112.

Hunters: Please check Elk Controlled Hunt Area descriptions on pages 60 - 63. Hunt Areas may change.

2019 & 2020 Controlled Elk Hunts (20,588 Tags Plus Unlimited Tags) Antlered Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2001	11	40	Oct 10 - Nov 3	
2002	18	110	Oct 10 - Nov 3	
2003	19A	10	Oct 1 - Oct 14	
2004	23	10	Oct 1 - Oct 14	
2005	29	180	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2006	30	150	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2007	30-1[a] (See pg 61)	30	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2008	31	100	Oct 15 - Nov 8	
2009	36A-1[b] (See pg 62)	60	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2010	36A-2[a] (See pg 62)	120	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2011	37	100	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2012	37A	100	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2013	40	60	Oct 15 - Nov 24	
2014	40-1[a] (See pg 62)	5	Sep 15 - Oct 14	***Caution:** An archery only hunt is open at the same time*
2015	41-1[b] (See pg 62)	30	Oct 1 - Oct 24	*Very limited access*
2016	41-1[b] (See pg 62)	30	Nov 1 - Nov 24	*Very limited access*
2017	42	15	Oct 15 - Nov 24	
2018	43	20	Oct 1 - Oct 14	
2019	43	100	Oct 15 - Nov 10	
2020	44	20	Oct 1 - Oct 14	
2021	44	175	Oct 15 - Nov 10	
2022	45	50	Aug 1 - Aug 29	*Very limited access, Motorized Hunting Rule Applies, See Pages 104 - 106*
2023	45	100	Oct 1 - Oct 31	*Very limited access, Motorized Hunting Rule Applies, See Pages 104 - 106*
2024	46-1[a] (See pg 62)	50	Oct 15 - Nov 30	*Motorized Hunting Rule Applies in Unit 47, See Pages 104 - 106*
2025	46-2[a] (See pg 62)	100	Dec 1 - Dec 31	
2026	48	20	Oct 1 - Oct 14	
2027	48	125	Oct 15 - Nov 10	
2028	49	25	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2029	49	200	Oct 15 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2030	50-1[b] (See pg 63)	25	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2031	50-1[b] (See pg 63)	120	Oct 15 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.

For details on controlled hunt rules and restrictions please see pages 108 - 112.

2019 & 2020 Controlled Elk Hunts Antlered Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2032	51	10	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2033	51	125	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2034	52	50	Aug 1 - Aug 29	
2035	52	50	Oct 1 - Oct 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2036	52A-1[a] (See pg 63)	75	Oct 1 - Nov 30	*Motorized Hunting Rule Applies in Unit 52A, See Pages 104 - 106*
2037	54	20	Oct 15 - Nov 10	
2038	55-1[a] (See pg 63)	50	Oct 1 - Oct 31	*Motorized Hunting Rule Applies in Unit 56, See Pages 104 - 106*
2039	56-1[b] (See pg 63)	25	Aug 1 - Aug 29	*On or within 1 mile of private agricultural lands*
2040	58-1[a] (See pg 63)	75	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2041	60-1[a] (See pg 63)	30	Oct 1 - Oct 14	
2042	60-2[a] (See pg 63)	100	Nov 1 - Nov 30	
2043	61	50	Nov 1 - Nov 10	
2044	66A-1[a] (See pg 63)	50	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2045	66A-1[a] (See pg 63)	400	Oct 15 - Oct 24	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2046	70-1[a] (See pg 63)	25	Oct 1 - Oct 14	*Motorized Hunting Rule Applies in Units 70, 72 & 73, See Pages 104 - 106*
2047	70-1[a] (See pg 63)	250	Oct 15 - Oct 24	*Motorized Hunting Rule Applies in Units 70, 72 & 73, See Pages 104 - 106*
2048	75-1[a] (See pg 63)	25	Oct 1 - Oct 14	*Motorized Hunting Rule Applies, See Pages 104 - 106*

2019 & 2020 Controlled Hunts Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2049	1-1[b] (See pg 60)	300	Aug 1 - Dec 31	*On or within 1 mile of private agricultural lands*
2050	2-1[b] (See pg 60)	100	Aug 1 - Dec 31	*On or within 1 mile of private agricultural lands*
2051	3-1[b] (See pg 60)	100	Aug 1 - Dec 31	*On or within 1 mile of private agricultural lands*
2052	3-2[a] (See pg 60)	220	Aug 1 - Dec 31	*On or within 1 mile of private agricultural lands*
2053	4-1[b] (See pg 60)	30	Aug 1 - Dec 31	*On or within 1 mile of private agricultural lands*
2054	4A-1[b] (See pg 60)	30	Aug 1 - Dec 31	*On or within 1 mile of private agricultural lands*
2055	5-1[b] (See pg 60)	100	Oct 10 - Dec 31	*On or within 1 mile of private agricultural lands*
2056	6-1[b] (See pg 60)	50	Aug 1 - Dec 31	*On or within 1 mile of private agricultural lands*
2057	8-1[a] (See pg 60)	75	Oct 20 - Dec 1	
2058	8-2[a] (See pg 60)	200	Oct 20 - Dec 1	
2059	11A	150	Oct 20 - Dec 31	*Very limited access*
2060	13	250	Oct 10 - Nov 3	*Very limited access because of few roads and private property*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 108 - 112.

2019 & 2020 Controlled Hunts Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2061	18	150	Oct 1 - Oct 25	
2062	19A	25	Oct 15 - Nov 8	
2063	19A-1[b] (See pg 60)	30	Aug 30 - Oct 31	
2064	22-1[a] (See pg 61)	200	Oct 25 - Nov 10	
2065	22-1[a] (See pg 61)	200	Nov 11 - Nov 30	
2066	23-1[b] (See pg 61)	50	Oct 1 - Oct 14	
2067	23-1[b] (See pg 61)	30	Oct 15 - Nov 8	
2068	23-2[b] (See pg 61)	75	Oct 5 - Nov 5	*Very limited access*
2069	23-2[b] (See pg 61)	25	Dec 1 - Dec 31	*Very limited access*
2070	23-3[b] (See pg 61)	40	Oct 15 - Nov 8	*Very limited access*
2071	23-3[b] (See pg 61)	25	Dec 1 - Dec 31	*Very limited access*
2072	24-1[b] (See pg 61)	150	Oct 15 - Nov 8	
2073	24-2[b] (See pg 61)	75	Oct 15 - Nov 8	
2074	29	70	Nov 1 - Nov 20	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2075	30	160	Dec 1 - Dec 15	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2076	30A-1[b] (See pg 61)	50	Aug 1 - Oct 14	*Portion of Unit **only**, See Hunt Planner or contact the Salmon Regional Office for map of Hunt Area, Motorized Hunting Rule Applies, See Pages 104 - 106*
2077	30A-1[b] (See pg 61)	50	Nov 1 - Dec 31	*Portion of Unit **only**, See Hunt Planner or contact the Salmon Regional Office for map of Hunt Area, Motorized Hunting Rule Applies, See Pages 104 - 106*
2078	31	125	Oct 15 - Oct 31	
2079	31	100	Nov 1 - Nov 14	
2080	32A-1[b] (See pg 62)	50	Dec 1 - Dec 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2081	36-1[b] (See pg 62)	200	Oct 1 - Oct 9	*Portion of Unit **only**, See Hunt Planner or contact the Salmon Regional Office for map of Hunt Area*
2082	36B-1[b] (See pg 62)	125	Oct 1 - Nov 20	*Portion of Unit **only**, See Hunt Planner or contact the Salmon Regional Office for map of Hunt Area*
2083	36B-1[b] (See pg 62)	75	Nov 21 - Dec 31	*Portion of Unit **only**, See Hunt Planner or contact the Salmon Regional Office for map of Hunt Area*
2084	37	60	Nov 1- Nov 20	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2085	37	100	Dec 10 - Dec 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2086	37A	90	Dec 10 - Dec 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2087	39-1[b] (See pg 62)	550	Oct 5 - Oct 31	
2088	39-2[a] (See pg 62)	400	Oct 5 - Oct 31	
2089	40-1[a] (See pg 62)	125	Oct 15 - Oct 31	
2090	40-1[a] (See pg 62)	75	Nov 1 - Nov 24	
2091	41-1[b] (See pg 62)	160	Dec 1 - Dec 31	*Very limited access*
2092	43-1[a] (See pg 62)	100	Oct 15 - Nov 10	
2093	44	150	Oct 15 - Nov 10	

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 108 - 112.

2019 & 2020 Controlled Hunts Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2094	44	150	Nov 11 - Nov 30	
2095	46-1[a] (See pg 62)	25	Oct 15 - Nov 9	*Motorized Hunting Rule Applies in Unit 47, See Pages 104 - 106*
2096	46-2[a] (See pg 62)	150	Nov 15 - Nov 30	
2097	46-2[a] (See pg 62)	150	Dec 1 - Dec 14	
2098	46-2[a] (See pg 62)	150	Dec 15 - Dec 31	
2099	48-1[b] (See pg 62)	250	Oct 15 - Nov 30	
2100	48-2[b] (See pg 62)	200	Oct 15 - Nov 30	
2101	48-3[a] (See pg 62)	25	Aug 1 - Aug 29	
2102	51	150	Dec 10 - Dec 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2103	54	150	Oct 15 - Nov 10	
2104	55-2[a] (See pg 63)	50	Aug 1 - Aug 29	
2105	56	50	Nov 10 - Nov 30	
2106	58	200	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2107	59-1[a] (See pg 63)	250	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2108	60-2[a] (See pg 63)	150	Nov 1 - Nov 30	
2109	61	100	Nov 1 - Nov 10	
2110	63	Unlimited	Sep 1 - Dec 31	*Short range weaons **only** on Mud Lake WMA*
2111	66-2[a] (See pg 63)	400	Nov 1 - Nov 15	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2112	66-2[a] (See pg 63)	400	Nov 16 - Nov 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2113	67-1[b] (See pg 63)	75	Oct 22 - Dec 14	*Portion of Unit **only**, Very limited access*
2114	68	75	Oct 10 - Nov 30	
2115	76	800	Oct 25 - Nov 15	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2116	76-1[a] (See pg 63)	100	Nov 16 - Dec 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*

2019 & 2020 Controlled Hunts Either Sex Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2117	13	335	Oct 10 - Nov 3	*Very limited access because of few roads and private property*
2118	31	100	Oct 1 - Oct 14	
2119	39-3[b] (See pg 62)	75	Nov 1 - Nov 9	*Very limited access*
2120	45	25	Dec 1 - Dec 31	*Very limited access, Motorized Hunting Rule Applies, See Pages 104 - 106*
2121	52	25	Dec 1 - Dec 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2122	62-1[a] (See pg 63)	150	Oct 15 - Nov 14	
2123	63	Unlimited	Aug 1 - Aug 30	*Short range weapons **only** on Mud Lake WMA*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 108 - 112.

2019 & 2020 Controlled Hunts Archery Only Elk - Archery Permit Required				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2124	18	40	Aug 30 - Sep 30	*Antlered **only***
2125	39	25	Sep 1 - Sep 30	*Antlered **only**, **Caution, See note 1, Page 55***
2126	40-1[a] (See pg 62)	10	Sep 15 - Oct 14	*Antlered **only**, **Caution, See note 1, Page 55***
2127	44	25	Aug 30 - Sep 30	*Antlered **only***
2128	45-1[a] (See pg 62)	25	Aug 30 - Sep 30	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2129	46-1[a] (See pg 62)	15	Aug 30 - Sep 30	*Antlered **only**, Motorized Hunting Rule Applies in Unit 47, See Pages 104 - 106*
2130	54	20	Aug 30 - Sep 24	*Antlered **only***

2019 & 2020 Controlled Hunts Muzzleloader Only Elk - Muzzleloader Permit Required				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2131	22	150	Dec 1 - Dec 31	*Antlerless **only***
2132	24	50	Dec 1 - Dec 20	*Antlerless **only***
2133	30A	50	Nov 1 - Nov 30	*Either sex, Motorized Hunting Rule Applies, See Pages 104 - 106*
2134	32A-2[b] (See pg 62)	150	Dec 1 - Dec 31	*Antlerless **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2135	33-1[a] (See pg 62)	25	Nov 10 - Nov 30	*Antlerless **only***
2136	33-2[a] (See pg 62)	50	Nov 10 - Nov 30	*Antlered **only***
2137	36A-1[b] (See pg 62)	25	Dec 8 - Dec 22	*Either sex, Motorized Hunting Rule Applies, See Pages 104 - 106*
2138	36A-2[a] (See pg 62)	125	Dec 8 - Dec 22	*Either sex, Motorized Hunting Rule Applies, See Pages 104 - 106*
2139	39	25	Sep 1 - Sep 30	*Antlered **only**, **Caution, See note 1, Page 55***
2140	39	500	Sep 8 - Sep 30	*Antlerless **only**, **Caution, See note 1, Page 55***
2141	46-1[a] (See pg 62)	15	Oct 1 - Oct 14	*Antlered **only**, Motorized Hunting Rule Applies in Unit 47, See Pages 104 - 106*
2142	48	50	Dec 1 - Dec 15	*Antlerless **only***
2143	49	100	Dec 8 - Dec 22	*Either sex, Motorized Hunting Rule Applies, See Pages 104 - 106*
2144	50-1[b] (See pg 63)	100	Dec 8 - Dec 22	*Either sex*
2145	54	20	Sep 25 - Oct 14	*Antlered **only***
2146	55-2[a] (See pg 63)	10	Nov 1 - Nov 14	*Antlered **only***
2147	61	200	Nov 11 - Dec 9	*Either sex*
2148	64-1[a] (See pg 63)	50	Oct 1 - Oct 9	*Either sex*
2149	66-1[a] (See pg 63)	50	Oct 1 - Oct 9	*Either sex, Motorized Hunting Rule Applies, See Pages 104 - 106*

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 108 - 112.

2019 & 2020 Controlled Hunts Youth Only - Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2150	1	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	
2151	2	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	
2152	3	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	
2153	4	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	
2154	5	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	
2155	6	25	Sep 6 - Sep 30	*Archery **only***
			Oct 10 - Dec 1	
2156	29	25	Oct 1 - Nov 20	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2157	30	25	Nov 1 - Dec 15	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2158	37	25	Nov 1 - Dec 31	*Motorized Hunting Rule Applies, See Pages 104 - 106*
2159	44	50	Nov 10 - Nov 30	
2160	54	25	Aug 1 - Aug 29	
2161	60-1[a] (See pg 63)	50	Oct 15 - Oct 28	
2162	66-2[a] (See pg 63)	100	Nov 1 - Nov 30	*Motorized Hunting Rule Applies, See Pages 104 - 106*

2019 & 2020 Controlled Hunts Youth Only - Either Sex Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2163	31	50	Oct 1 - Oct 14	

2019 & 2020 Controlled Hunts Extra Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2164	32-1X[b] (See pg 61)	100	Aug 15 - Oct 31	*Very limited access, most elk are on private property*
2165	32-1X[b] (See pg 61)	250	Nov 1 - Dec 31	*Very limited access, most elk are on private property*
2166	41-1X[b] (See pg 62)	85	Dec 1 - Dec 31	
2167	76-1X[b] (See pg 63)	50	Dec 1 - Dec 31	*Muzzleloader **only**, Private land **only***

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 108 - 112.

2019 & 2020 Controlled Hunts Landowner Permission Required - Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2168*	14-1[b] (See pg 60)	50	Dec 10 - Dec 31	*Private land **only**, For application information, See Page 111*
*Landowner Permission Required Hunts are a form of Depredation Hunts. Do not apply for these hunts during the controlled hunt application period. Please see page 113 for application information.				

2019 & 2020 Controlled Hunts Landowner Permission Required EXTRA Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2169*	10A-1X[b] (See pg 60)	75	Aug 1 - Dec 31	*For application information, See Page 111*
2170*	14-1X[b] (See pg 60)	40	Aug 1 - Dec 31	*For application information, See Page 111*
2171*	21A-1X[a] (See pg 61)	200	Oct 1 - Dec 31	*On private irrigated agricultural lands, For application information, See Page 111*
2172*	24-1X[b] (See pg 61)	50	Aug 1 - Sep 30 Nov 15 - Dec 31	*Private land **only**, Very limited access, For application information, See Page 111*
2173*	31-1X[b] (See pg 61)	250	Aug 1 - Dec 31	*Short range weapons **only** in a portion of this hunt, For application information, See Page 111*
2174*	31-2X[b] (See pg 61)	150	Aug 1 - Sep 30	*For application information, See Page 111*
2175*	32-2X[b] (See pg 62)	100	Aug 15 - Aug 29 Oct 5 - Dec 31	*Portion of Unit **only**, See Hunt Planner or contact the Southwest or McCall Regional Office for map of Hunt Area, Motorized Hunting Rule Applies, See Pages 104 - 106 For application information, See Page 111*
2176*	39-1X[b] (See pg 62)	300	Oct 1 - Dec 31	*For application information, See Page 111*
2177*	39-2X[b] (See pg 62)	125	Aug 1 - Oct 4 Nov 1 - Dec 31	*For application information, See Page 111*
2178*	40-1X[a] (See pg 62)	100	Aug 1 - Dec 31	*Private land **only**, For application information, See Page 111*
2179*	41-1X[b] (See pg 62)	85	Dec 1- Dec 31	*For application information, See Page 111*
2180*	44-1X[a] (See pg 62)	150	Aug 1 - Oct 31	*Private and State land **only**, For application information, See Page 111*
2181*	44-1X[a] (See pg 62)	50	Nov 1 - Dec 31	*Private and State land **only**, For application information, See Page 111*
2182*	45-1X[b] (See pg 62)	75	Aug 1 - Oct 31	*Private land **only**, For application information, See Page 111*
2183*	45-1X[b] (See pg 62)	25	Nov 1 - Dec 31	*Private land **only**, For application information, See Page 111*
2184*	46-1X[a] (See pg 62)	125	Aug 1 - Oct 31	*Private land **only**, For application information, See Page 111*
2185*	46-1X[a] (See pg 62)	125	Nov 1 - Dec 31	*Private land **only**, For application information, See Page 111*
2186*	49-1X[a] (See pg 62)	200	Aug 1 - Oct 31	*Private land **only**, For application information, See Page 111*
2187*	49-1X[a] (See pg 62)	100	Nov 1 - Dec 31	*Private land **only**, For application information, See Page 111*
2188*	50-1X[b] (See pg 63)	50	Oct 1 - Dec 31	*For application information, See Page 111*

CONTROLLED ELK

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 108 – 112.

2019 & 2020 Controlled Hunts Landowner Permission Required EXTRA Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2189*	52-1X[b] (See pg 63)	75	Aug 1 - Oct 31	*Private land **only**, For application information, See Page 111*
2190*	52-1X[b] (See pg 63)	25	Nov 1 - Dec 31	*Private land **only**, For application information, See Page 111*
2191*	68-1X[b] (See pg 63)	25	Aug 1 - Sep 30	*Private land **only**, For application information, See Page 111*
2192*	74-1X[b] (See pg 63)	50	Aug 1 - Sep 30	*Private land **only**, For application information, See Page 111*
2193*	75-1X[b] (See pg 63)	100	Aug 1 - Sep 30 Dec 1 - Dec 30	*Private land **only**, For application information, See Page 111*
2194*	76-1X[b] (See pg 63)	200	Aug 1 - Aug 31 Nov 1 - Dec 31	*Private land **only**, For application information, See Page 111*
2195*	77-1X[b] (See pg 63)	50	Aug 1 - Sep 30 Nov 1 - Dec 31	*Private land **only**, For application information, See Page 111*
*Landowner Permission Required Hunts are a form of Depredation Hunts. Do not apply for these hunts during the controlled hunt application period. Please see page 111 for application information.				

Note:

1. **Caution archers and muzzleloaders:** An "any weapon" hunt will be open at the same time in this hunt area.

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.
For details on controlled hunt rules and restrictions please see pages 108 - 112.

HAVE YOU SEEN THIS?

Images courtesy of WADFW and ODFW

Idaho Fish and Game has confirmed a case of Treponema Associated Hoof Disease (TAHD) in an elk harvested near Whitebird, Idaho in 2018. This is the first animal diagnosed with this disease in Idaho. Elk affected with TAHD are still safe to consume. Fish and Game is asking people to report elk that appear to have trouble walking, or that have odd-looking hooves.

Report incidents online: idfg.idaho.gov/report/tahd or call (208) 939-9171.

2020 Controlled Hunts Extra Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2250	22-1X[a] (See pg 61)	50	Jan 1 - Jan 31	*Very limited access*
2251	41-1X[b] (See pg 62)	50	Jan 1 - Jan 21	
2252	41-2X[b] (See pg 62)	60	Jan 1 - Jan 21	*Very limited access*
2253	45X	100	Jan 1 - Feb 15	*Very limited access*
2254	50-1X[b] (See pg 63)	50	Jan 1 - Feb 15	
2255	51-1X[b] (See pg 63)	25	Jan 1 - Feb 15	
2256	63-1X[a] (See pg 63)	50	Jan 1 - Feb 15	*Short range weapons **only** on Mud Lake WMA*
2257	76-1X[b] (See pg 63)	50	Jan 1 - Jan 31	*Muzzleloader **only**, Private land **only***
These are 2020 hunts. Hunters may apply for these hunts during the 2019 application year. Hunters must purchase a 2020 hunting license before they can pick up these tags. Hunting licenses for 2020 will go on sale December 1, 2019.				

2020 Controlled Hunts Landowner Permission Required EXTRA Antlerless Elk				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2258*	22-2X[a] (See pg 61)	25	Jan 1 - Feb 28	*Private land **only**, For application information, See Page 111*
2259*	24-1X[b] (See pg 61)	50	Jan 1 - Feb 28	*Private land **only**, For application information, See Page 111*
2260*	31-3X[b] (See pg 61)	25	Jan 1 - Feb 28	*Private land **only**, Short range weapons only in a portion of this hunt, For application information, See Page 111*
2261*	41-1X[b] (See pg 62)	50	Jan 1 - Jan 21	*For application information, See Page 111*
2262*	50-1X[b] (See pg 63)	50	Jan 1 - Feb 15	*For application information, See Page 111*
2263*	51-1X[b] (See pg 63)	25	Jan 1 - Feb 15	*For application information, See Page 111*
*Landowner Permission Required Hunts are a form of Depredation Hunts. Do not apply for these hunts during the controlled hunt application period. Please see page 111 for application information. **These are 2020 hunts.** Hunters must purchase a 2020 hunting license before they can pick up these tags. Hunting licenses for 2020 will go on sale December 1, 2019.				

CONTROLLED ELK

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.

For details on controlled hunt rules and restrictions please see pages 108 - 112.

2019 & 2020 Controlled Hunts
Outfitter Allocation Elk

Applicants must have a written agreement with an Outfitter licensed in the hunt area.

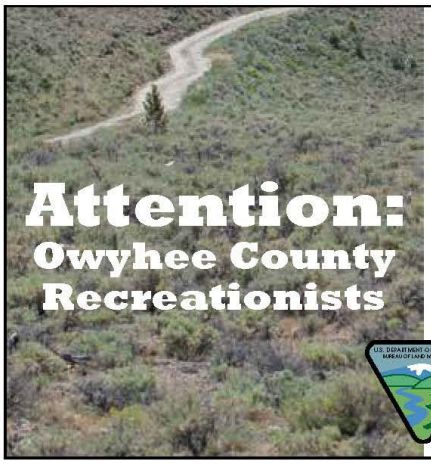
Hunt No.	Controlled Hunt Areas	Tags	Season Dates	Notes
2196	11	5	Oct 10 - Nov 3	*Antlered **only***
2197	13	15	Oct 10 - Nov 3	*Either sex*
2198	18	9	Oct 10 - Nov 3	*Antlered **only***
2199	29	7	Oct 1 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2200	36-1[b] (See pg 62)	6	Oct 1 - Oct 9	*Antlerless **only**, Portion of Unit **only**, See Hunt Planner or contact the Salmon Regional Office for map of Hunt Area*
2201	36A-1[b] (See pg 62)	3	Oct 1 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2202	36A-1[b] (See pg 62)	1	Dec 8 - Dec 22	*Either Sex, Muzzleloader **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2203	36A-2[a] (See pg 62)	7	Oct 1 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2204	36A-2[a] (See pg 62)	4	Dec 8 - Dec 22	*Either Sex, Muzzleloader **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2205	37	2	Oct 1 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2206	37	3	Nov 1 - Dec 31	*Antlerless **only**, Youth hunt **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2207	37	2	Nov 1 - Nov 20	*Antlerless **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2208	37	3	Dec 10 - Dec 31	*Antlerless **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2209	37A	5	Oct 1 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2210	40-1[a] (See pg 62)	1	Sep 15 - Oct 14	*Antlered **only***
2211	42	1	Oct 15 - Nov 24	*Antlered **only***
2212	43	4	Oct 15 - Nov 10	*Antlered **only***
2213	44	2	Oct 15 - Nov 10	*Antlered **only***
2214	45	3	Oct 1 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2215	45	1	Dec 1 - Dec 31	*Either Sex, Motorized Hunting Rule Applies, See Pages 104 - 106*
2216	45-1[a] (See pg 62)	1	Aug 30 - Sep 30	*Antlered **only**, Archery **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2217	49	9	Oct 15 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2218	50-1[b] (See pg 63)	4	Oct 15 - Oct 31	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2219	50-1[b] (See pg 63)	3	Dec 8 - Dec 22	*Either Sex, Muzzleloader **only***
2220	54	1	Aug 30 - Sep 24	*Antlered **only**, Archery **only***

[a] This hunt includes other units or parts of other units. See controlled hunt area descriptions.
[b] This hunt includes only a portion of this unit. See controlled hunt area descriptions.

For details on controlled hunt rules and restrictions please see pages 108 - 112 .

2019 & 2020 Controlled Hunts Outfitter Allocation Elk Applicants must have a written agreement with an Outfitter licensed in the hunt area.				
Hunt No.	**Controlled Hunt Areas**	**Tags**	**Season Dates**	**Notes**
2221	54	1	Sep 25 - Oct 14	*Antlered **only**, Muzzleloader **only***
2222	54	2	Oct 15 - Nov 10	*Antlerless **only***
2223	58-1[a] (See pg 63)	2	Nov 1 - Nov 30	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2224	61	2	Nov 1 - Nov 10	*Antlered **only***
2225	61	3	Nov 11 - Dec 9	*Either sex, Muzzleloader **only***
2226	62-1[a] (See Page 63)	15	Oct 15 - Nov 14	*Either sex*
2227	66A-1[a] (See pg 63)	2	Oct 1 - Oct 14	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2228	66A-1[a] (See pg 63)	12	Oct 15 - Oct 24	*Antlered **only**, Motorized Hunting Rule Applies, See Pages 104 - 106*
2229	67-1[b] (See pg 63)	2	Oct 22 - Dec 14	*Antlerless **only**, Portion of Unit **only*** *Very limited access*

Outfitted controlled hunts: Before submitting an application for an outfitter-allocated controlled hunt, hunters must have a written agreement with an outfitter licensed in the hunt area. Successful applicants must hunt with an outfitter licensed for the hunt area. The outfitter must purchase the hunter's tag by August 20. Successful applicants authorize Idaho Fish and Game to provide names and addresses to the outfitters licensed for that controlled hunt. For a list of licensed outfitters in the applicable controlled hunt area, a sample written agreement, and additional information contact the Idaho Outfitters and Guides Licensing Board at **oglb.idaho.gov** or by calling 208-327-7380.



Legislation approved in 2009 designated major portions of Owyhee County as wilderness, where access by motorized vehicles is forbidden by law.

A number of access routes were preserved for hunter access. Please check your maps and abide by wilderness regulations.

Maps showing wilderness boundaries can be found at Bruneau, Owyhee and Jarbidge offices of the Bureau of Land Management.

For More Information, Please Contact
BLM Boise District @ 208-384-3300 or the BLM Twin Falls District @ 208-736-2350; or visit the website @ www.blm.gov/idaho

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